

AD-A123 609

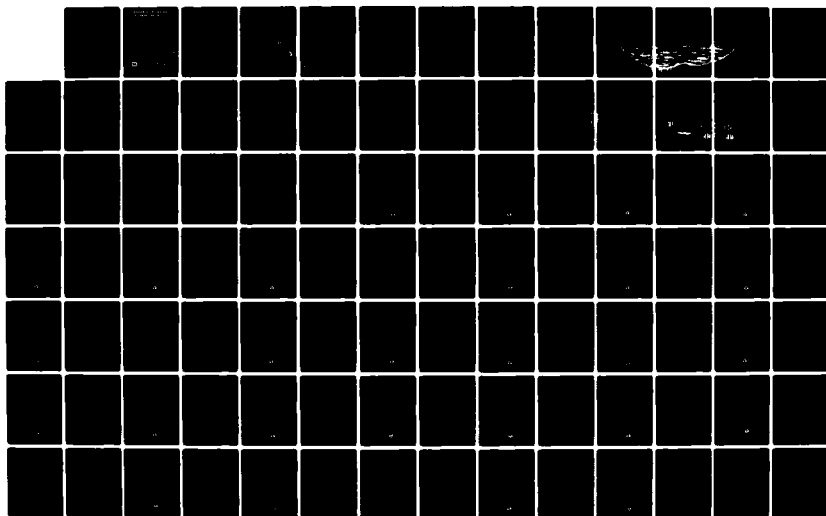
EMBANKMENT CRITERIA AND PERFORMANCE REPORT MISSOURI
RIVER FORT PECK LAKE MONTANA VOLUME III DRAWINGS(U)
ARMY ENGINEER DISTRICT OMAHA NEBR SEP 82

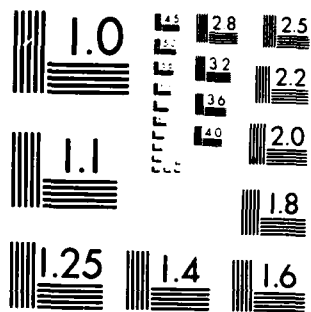
1/2

UNCLASSIFIED

F/G 13/13

NL



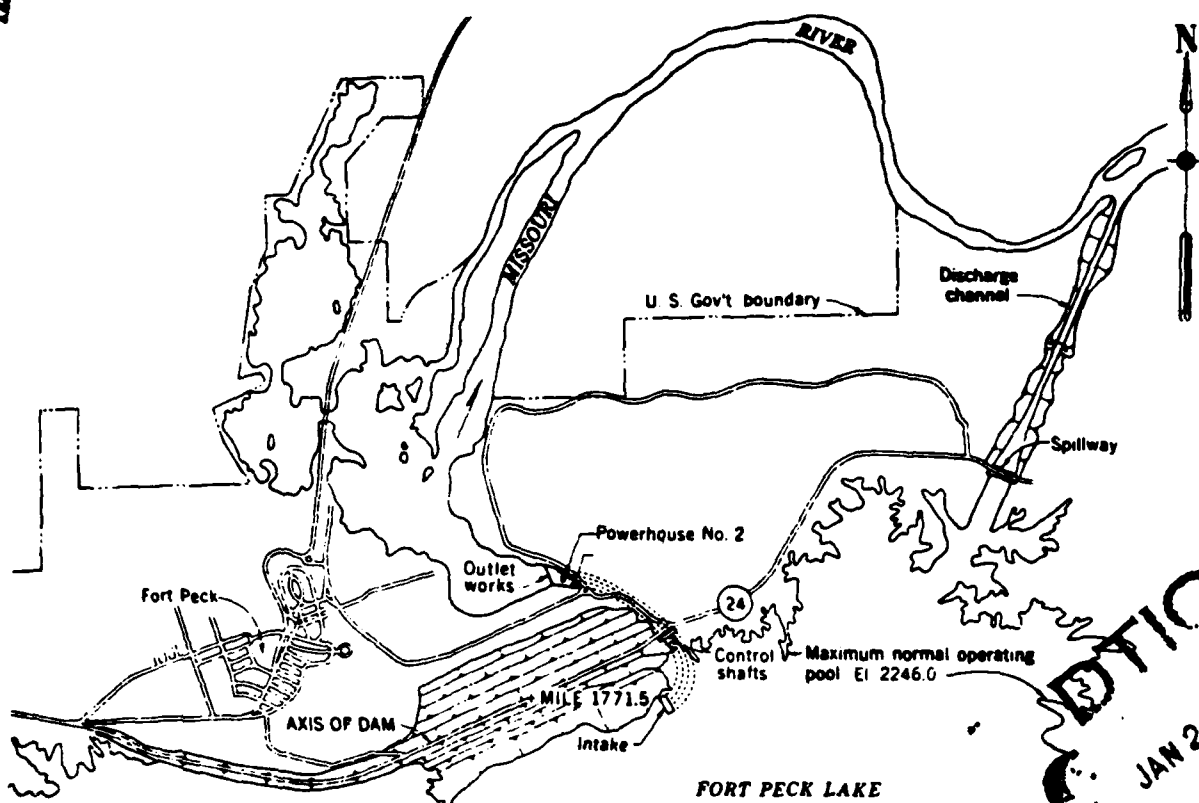


MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

EMBANKMENT CRITERIA AND PERFORMANCE REPORT

SEPTEMBER 1982

MISSOURI RIVER FORT PECK LAKE, MONTANA



DTIC COPY



US Army Corps
of Engineers
Omaha District

VOLUME III
DRAWINGS

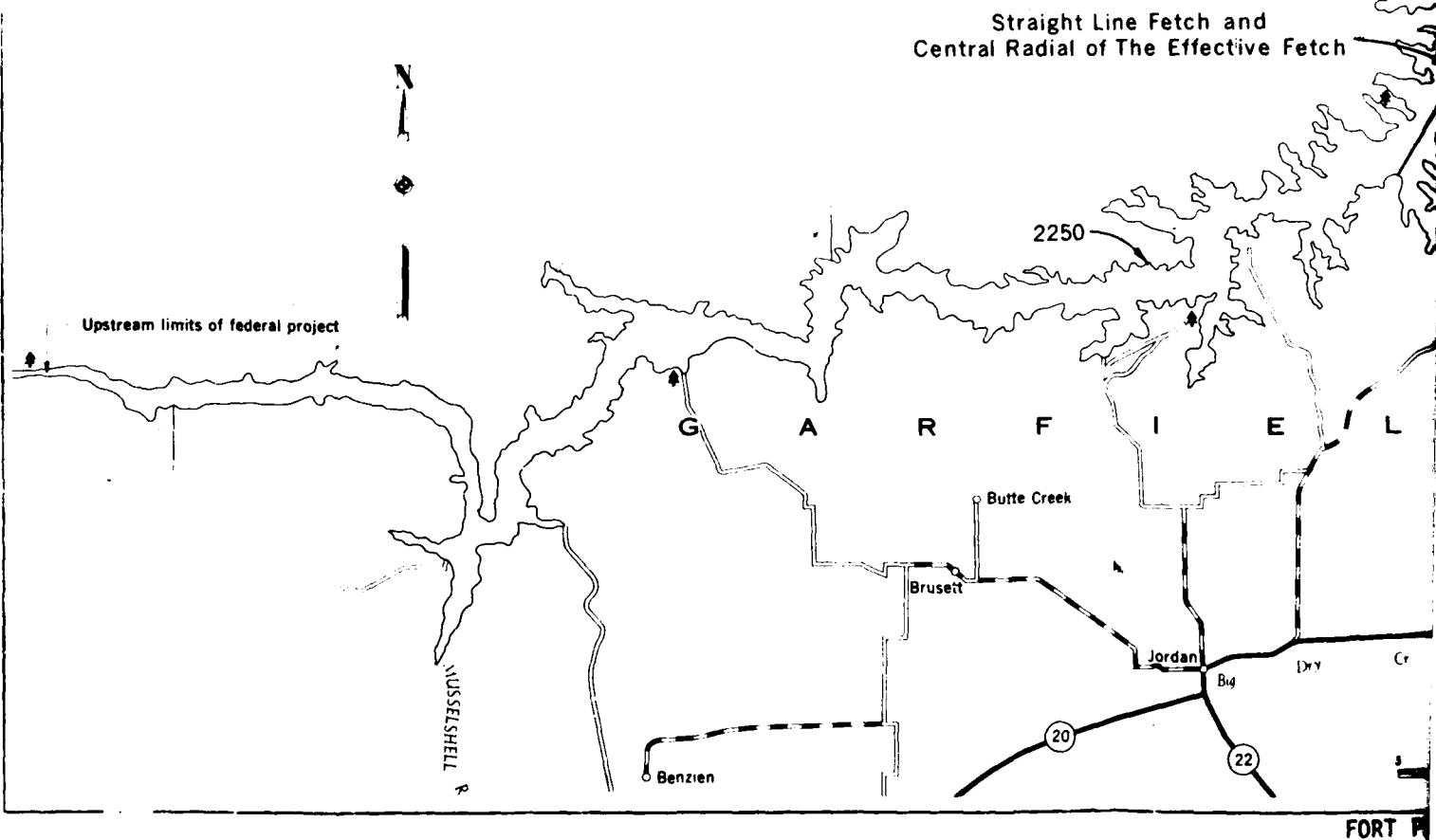
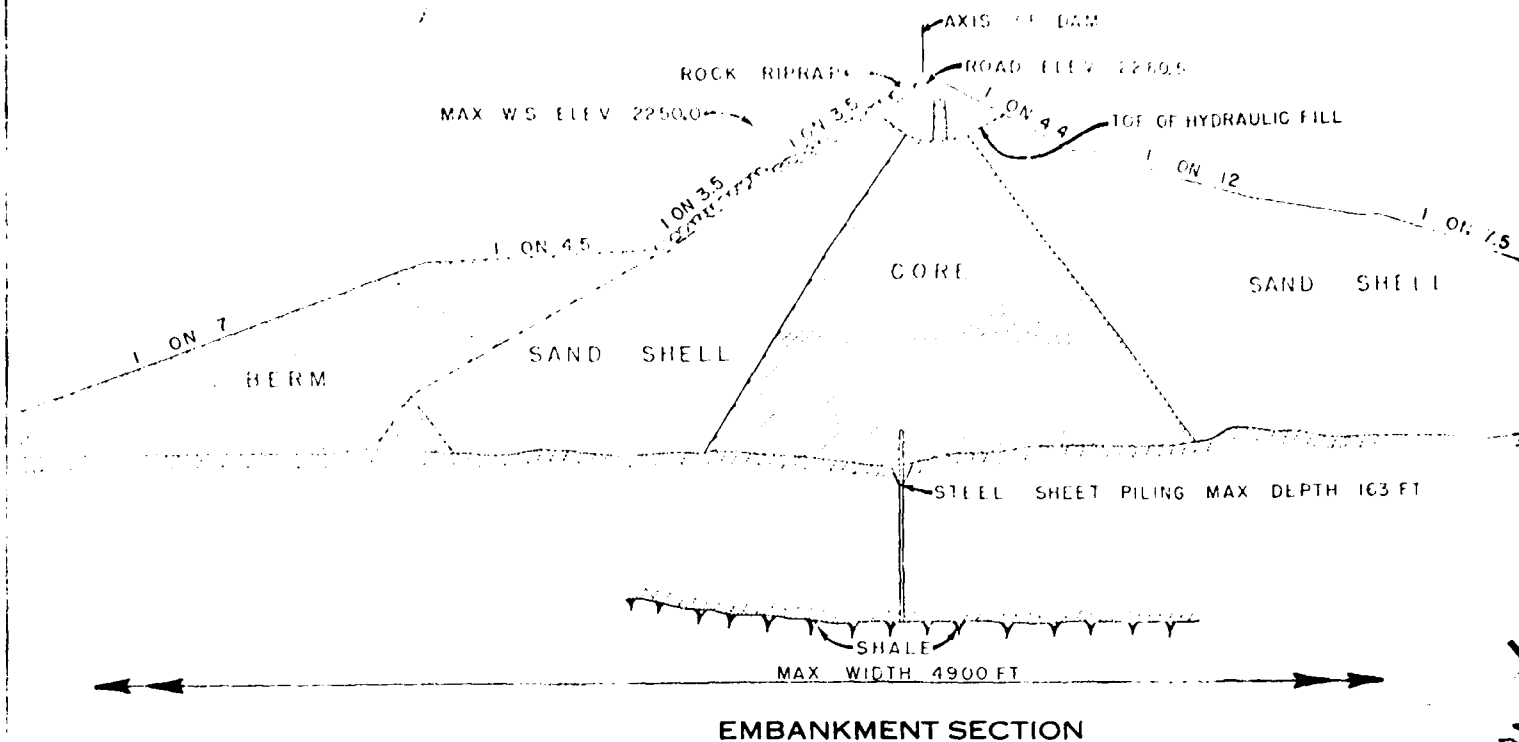
DISTRIBUTION STATEMENT A

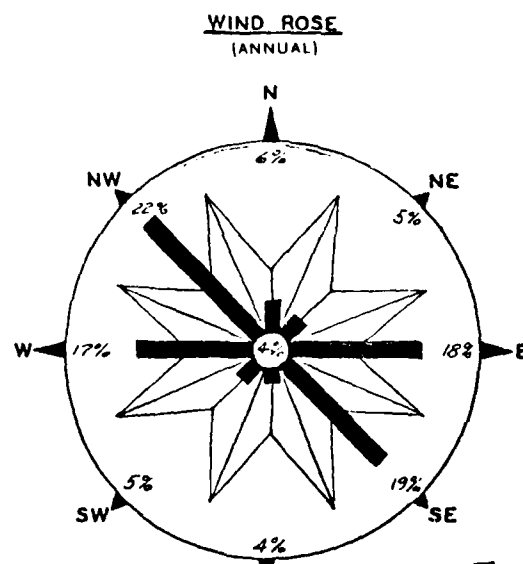
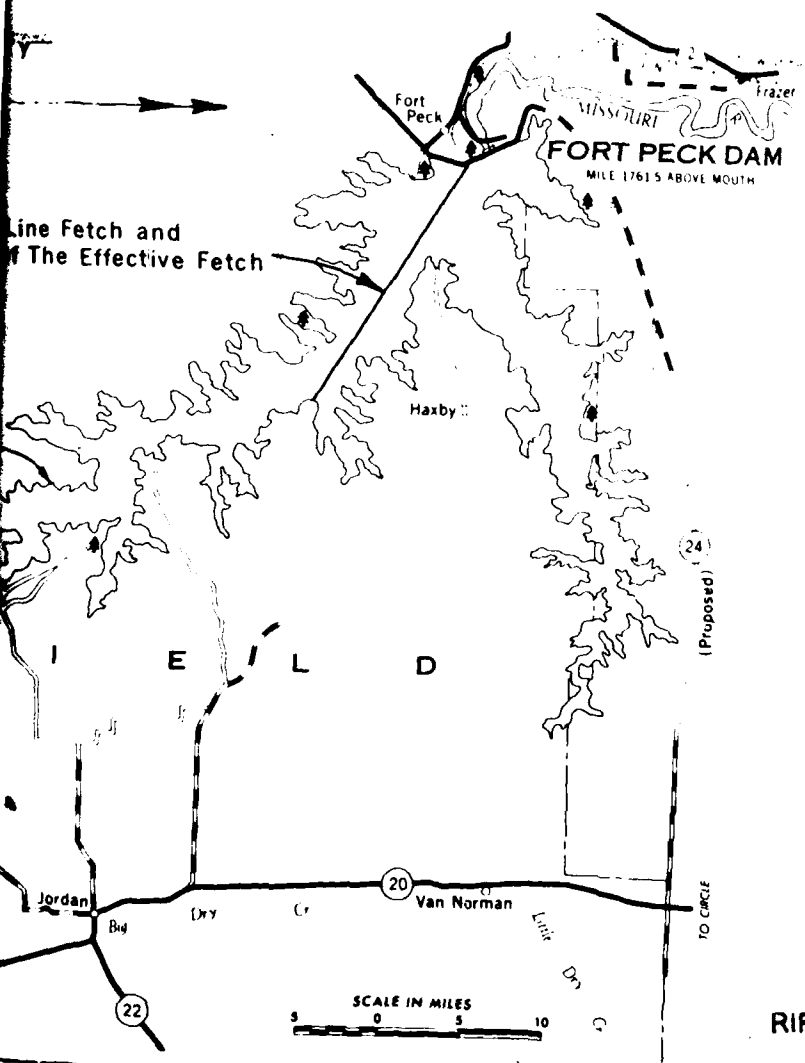
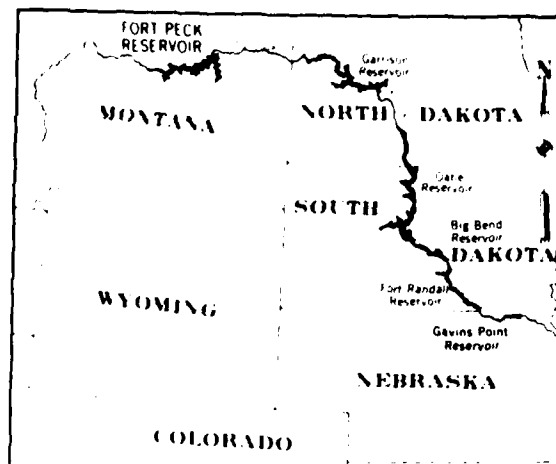
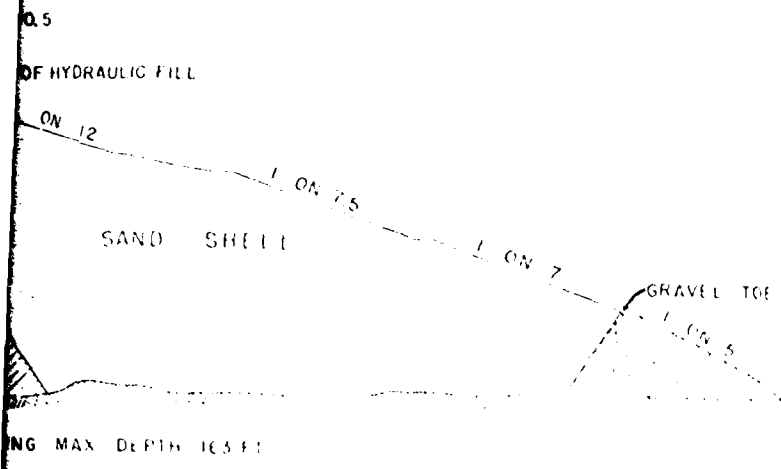
Approved for public release
Distribution Unlimited

83

135

DTIC
JAN 21 1983
H



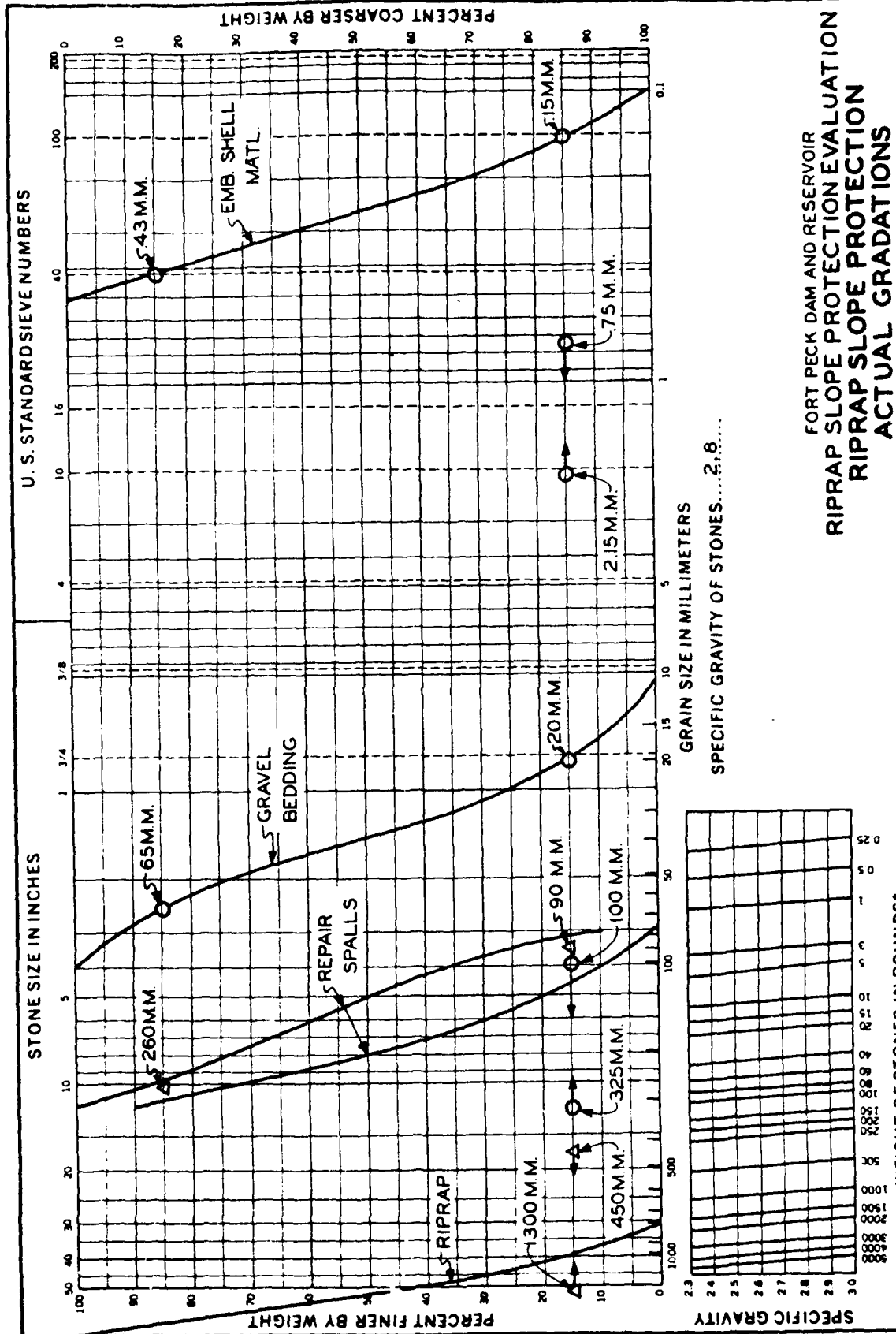


NOTE:
VALUES SHOWN AT END OF
EACH BAR INDICATE THE
PERCENT OF TIME THAT WIND
IS FROM GIVEN DIRECTION.

DTIC
JAN 21 1983
H

FORT PECK DAM AND RESERVOIR
RIPRAP SLOPE PROTECTION EVALUATION
GENERAL DATA

DISTRIBUTION STATEMENT A
Approved for public release
Distribution Unlimited



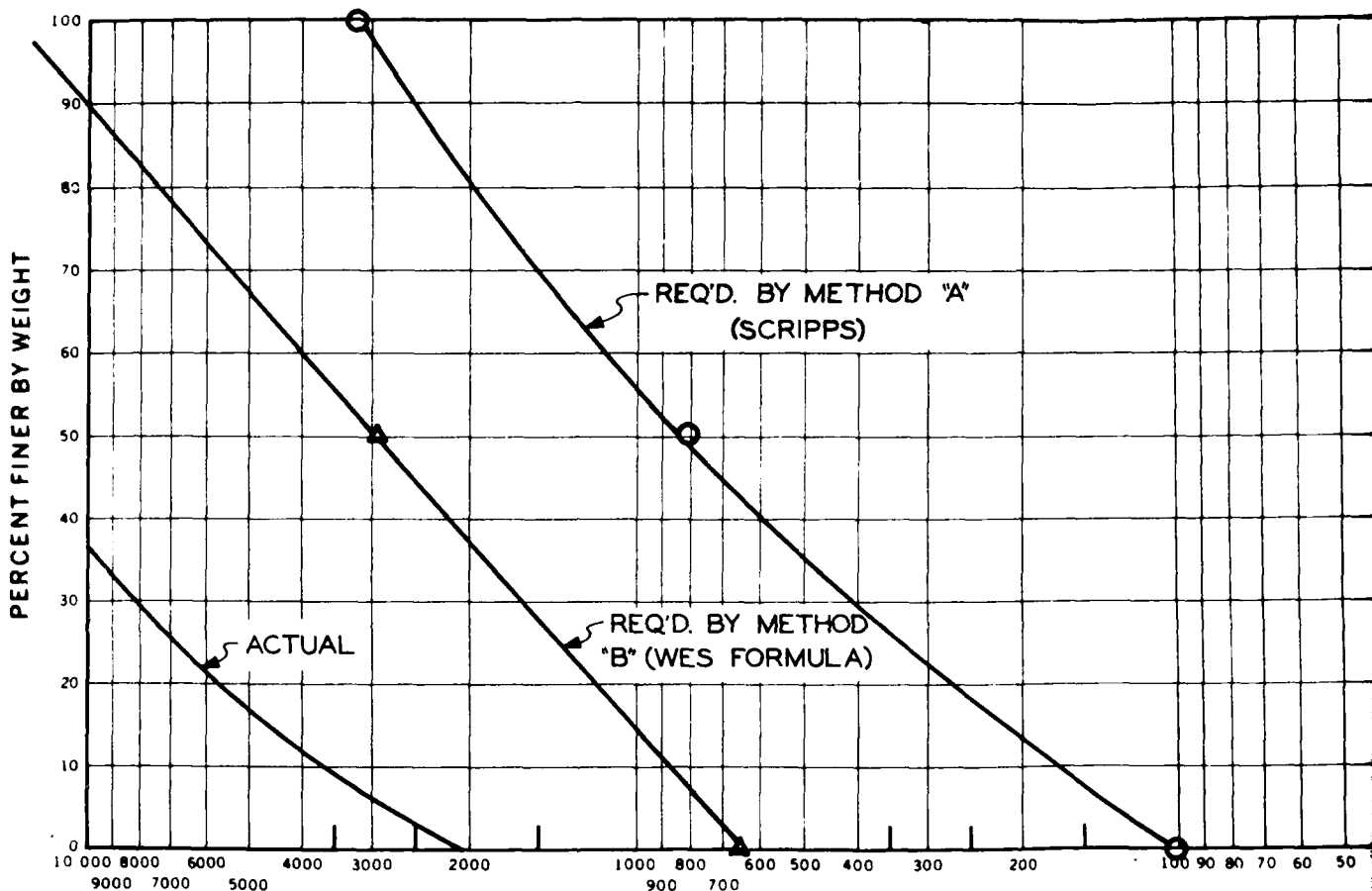
GRADATION CURVES

**FORT PECK DAM AND RESERVOIR
RIPRAP SLOPE PROTECTION EVALUATION
RIPRAP SLOPE PROTECTION
ACTUAL GRADATIONS**

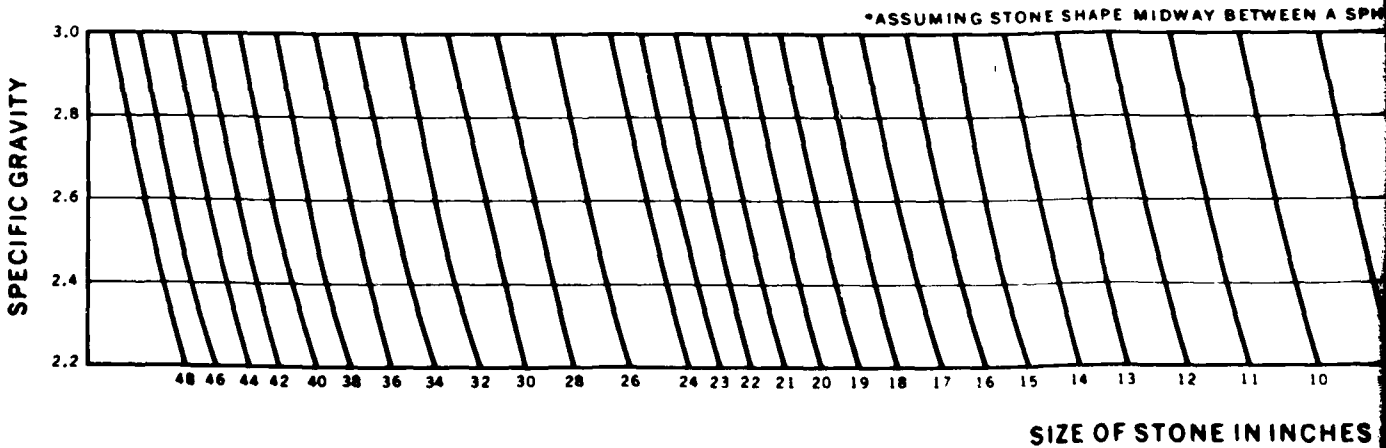
• ASSUMING STONE SHAPE MIDWAY BETWEEN A SPHERE & CUBE

PROJECT FORT PECK DAM

RIPRAP GRADATION CURVES
AREA EMBANKMENT



WEIGHT OF STONES IN POUND
SPECIFIC GRAVITY OF ROCK...2.2

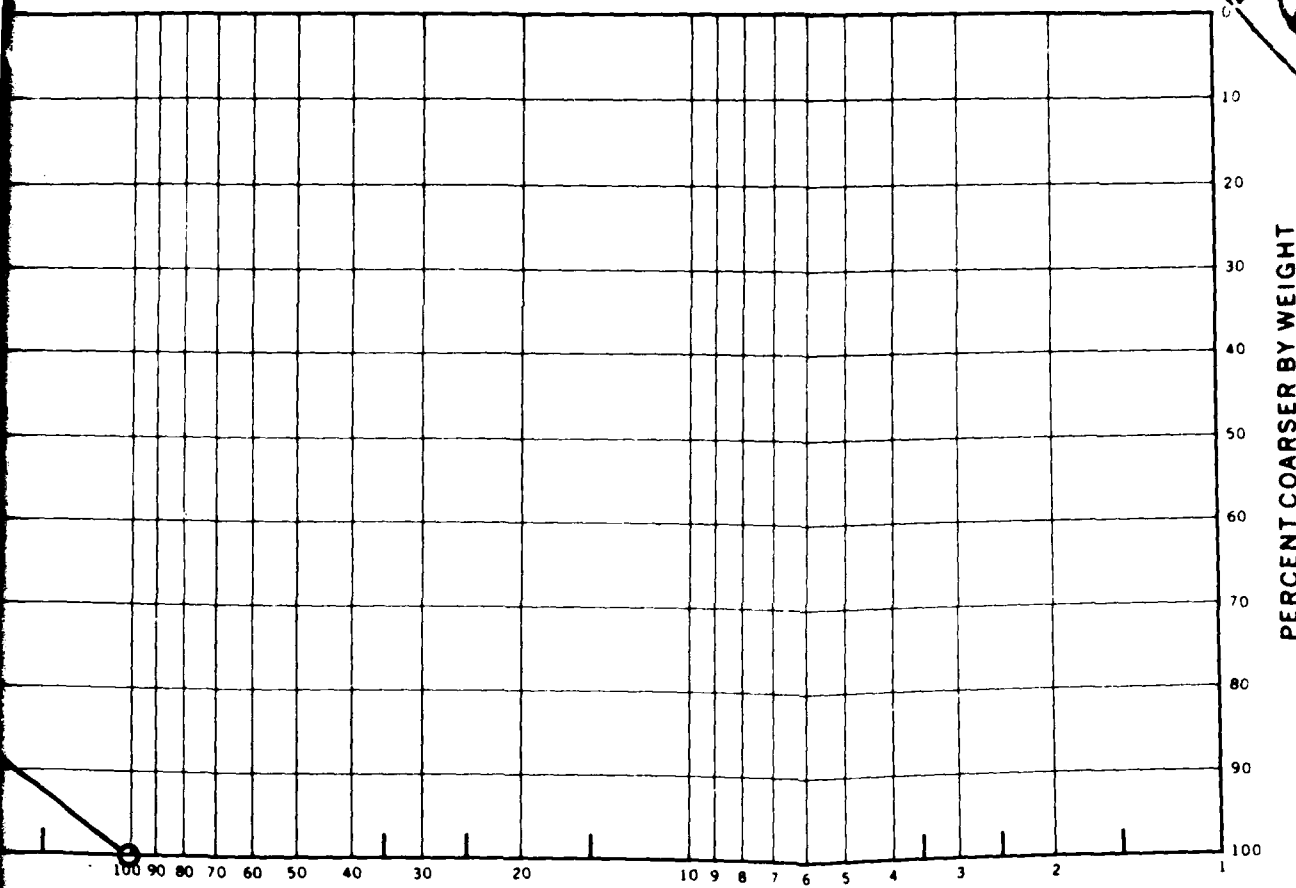


Accession of
 NIS 011
 DTIC 7-5
 Unannounced
 Justification for
 Distribution/
 Availability Codes
 Avail. and/or
 Special
 Dist
 A

AP GRADATION CURVES

EMBANKMENT.....

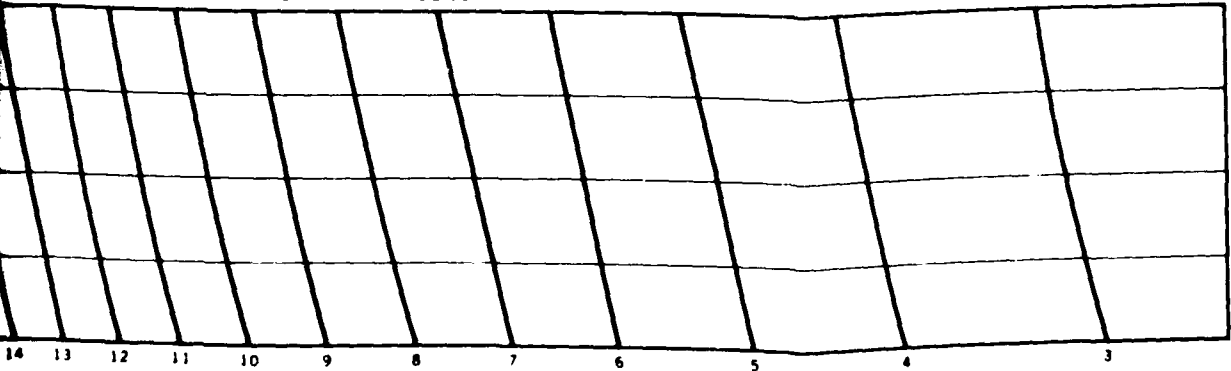
DATE.....



WEIGHT OF STONES IN POUNDS *

GRAVITY OF ROCK... 2.8.....

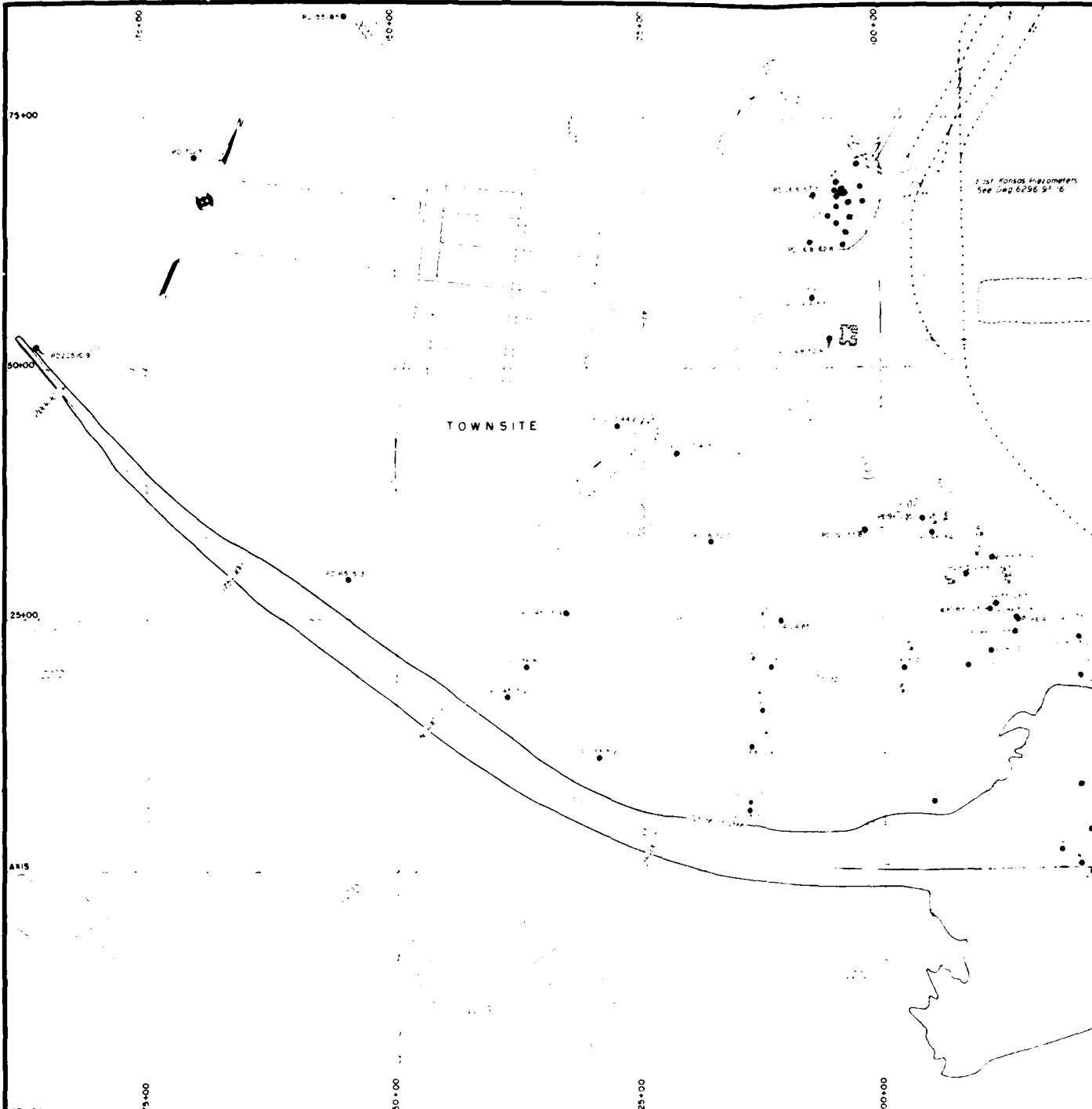
SHAPE MIDWAY BETWEEN A SPHERE AND CUBE



SIZE OF STONE IN INCHES

2

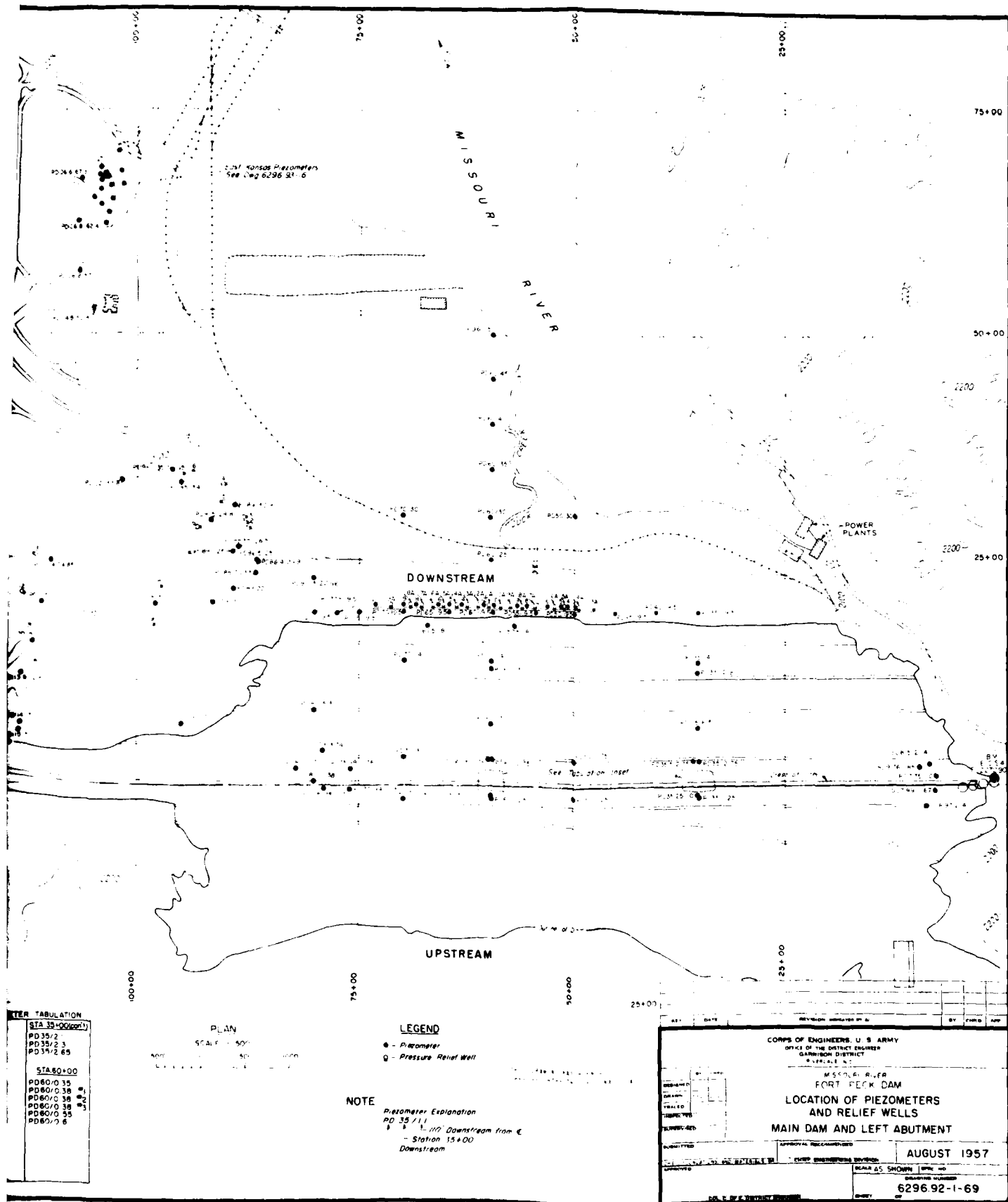
FORT PECK DAM AND RESERVOIR
 RIPRAP SLOPE PROTECTION EVALUATION
 RIPRAP STONE
 ACTUAL VS REQUIRED GRADATIONS



CORE PIEZOMETER TABULATION

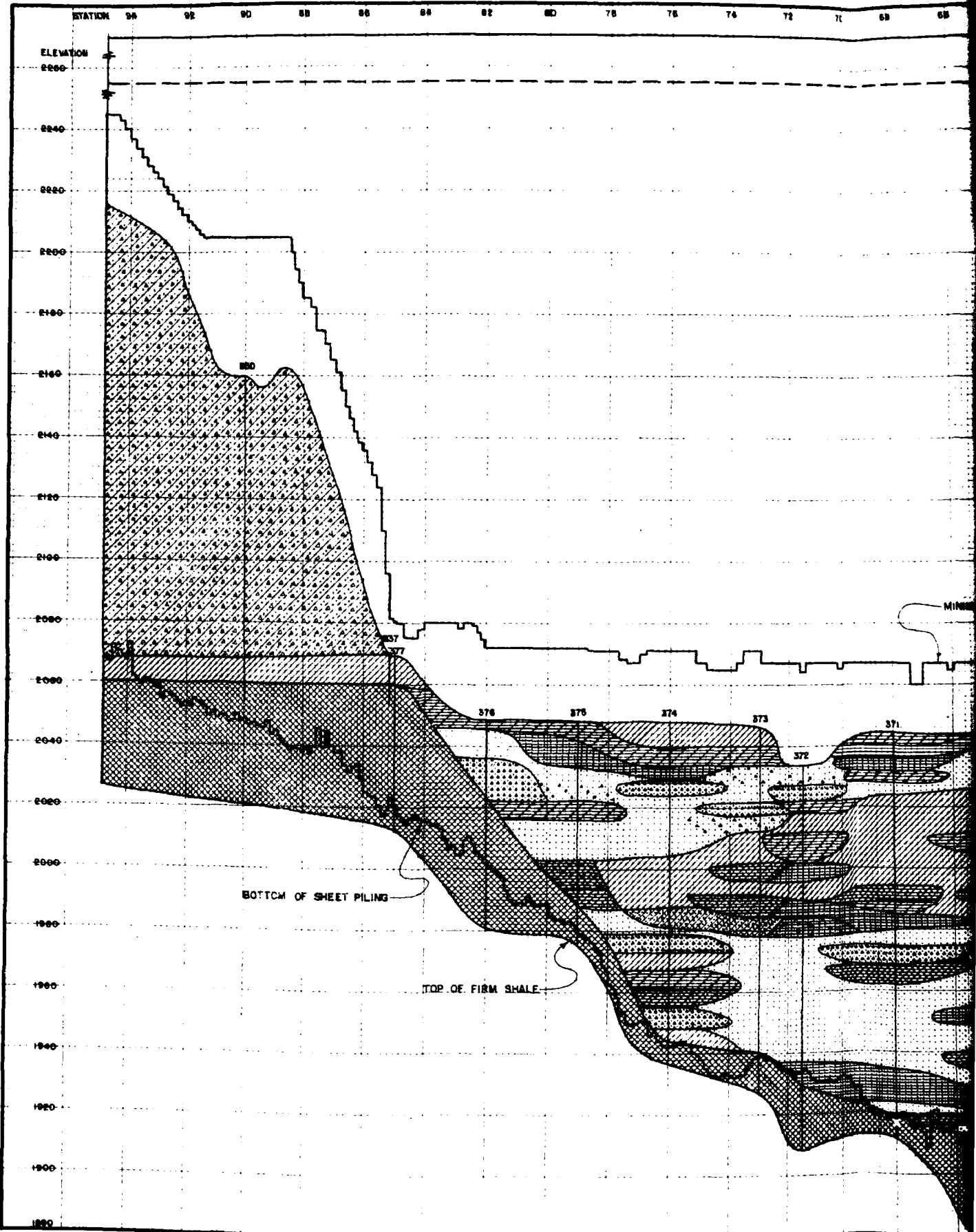
STA 35+00	STA 35+00 (cont)
PD35/1	PD35/2
PD35/10	PD35/23
PD35/07	PD35/25
PD35/06	
PD35/01	STA 60+00
PD35/08	PD60/035
PD35/038	PD60/038 #1
PD35/028 #2	PD60/038 #2
PD35/038 #3	PD60/038 #3
PD35/035	PD60/055
PD35/055	PD60/056
PD35/060	
PD35/08	
PD35/085	
PD35/11	
PD35/14	
PD35/15	
PD35/17	
PD35/185	

P. 111
S. A. E. 111



2

WAR DEPARTMENT



68 66 64 62 60 58 56 54 52 50 48 46 44 42 40 38 36 34 32

TOP OF DAM

TOP OF CORE

MINIMUM TOP ELEVATION OF SHEET PILING

370

367

366

365

364

363

362

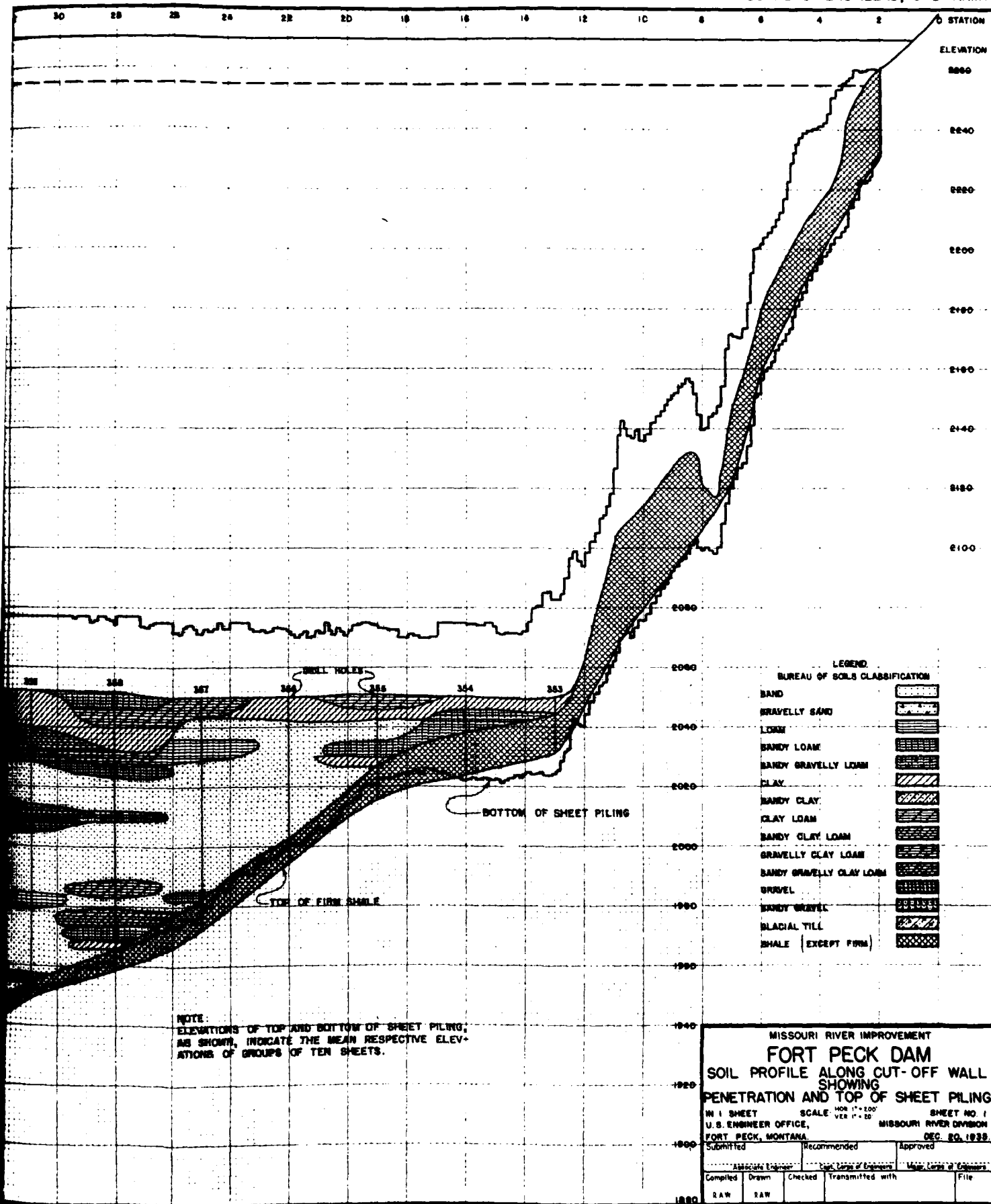
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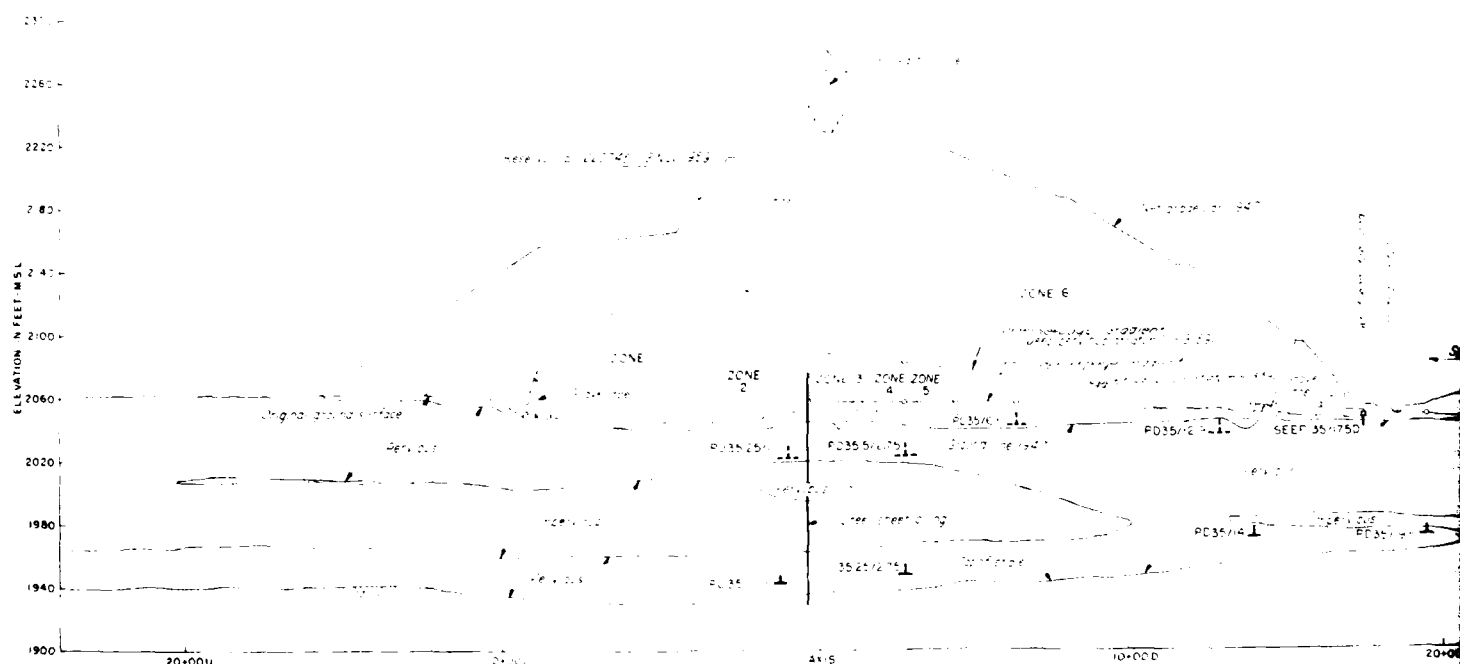
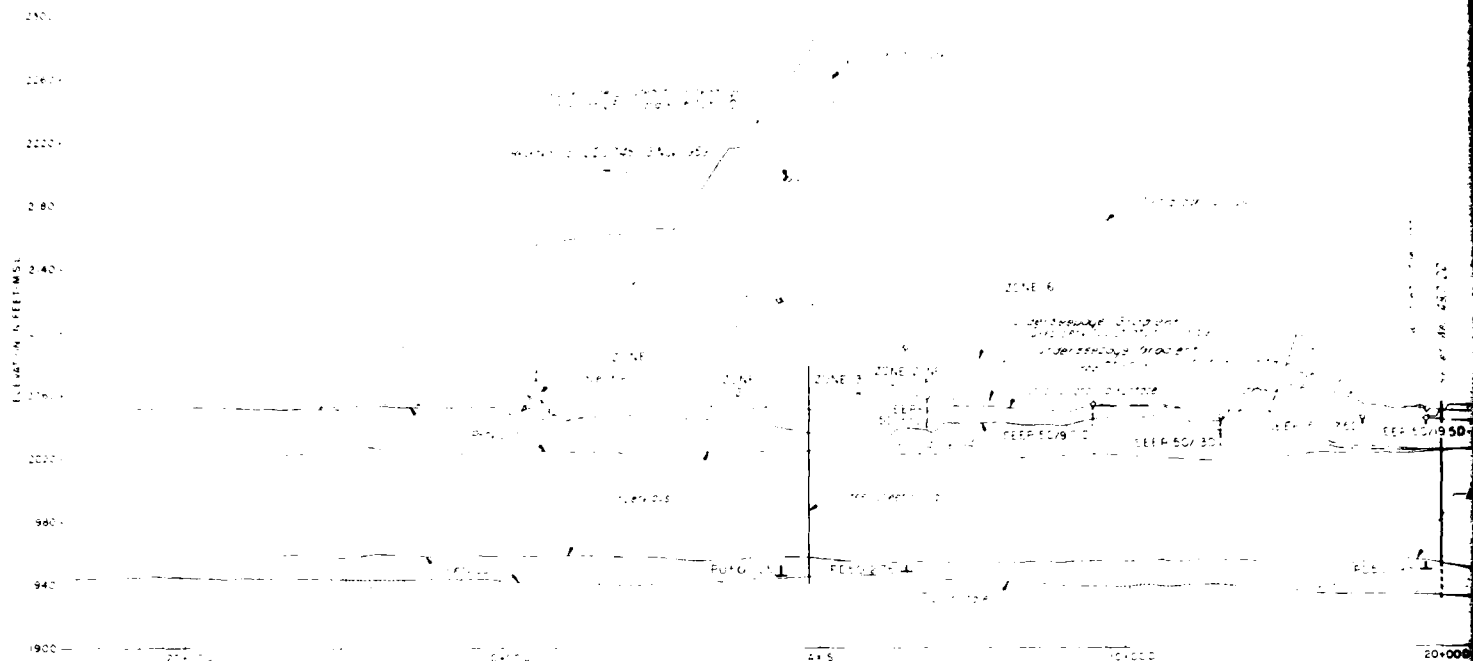
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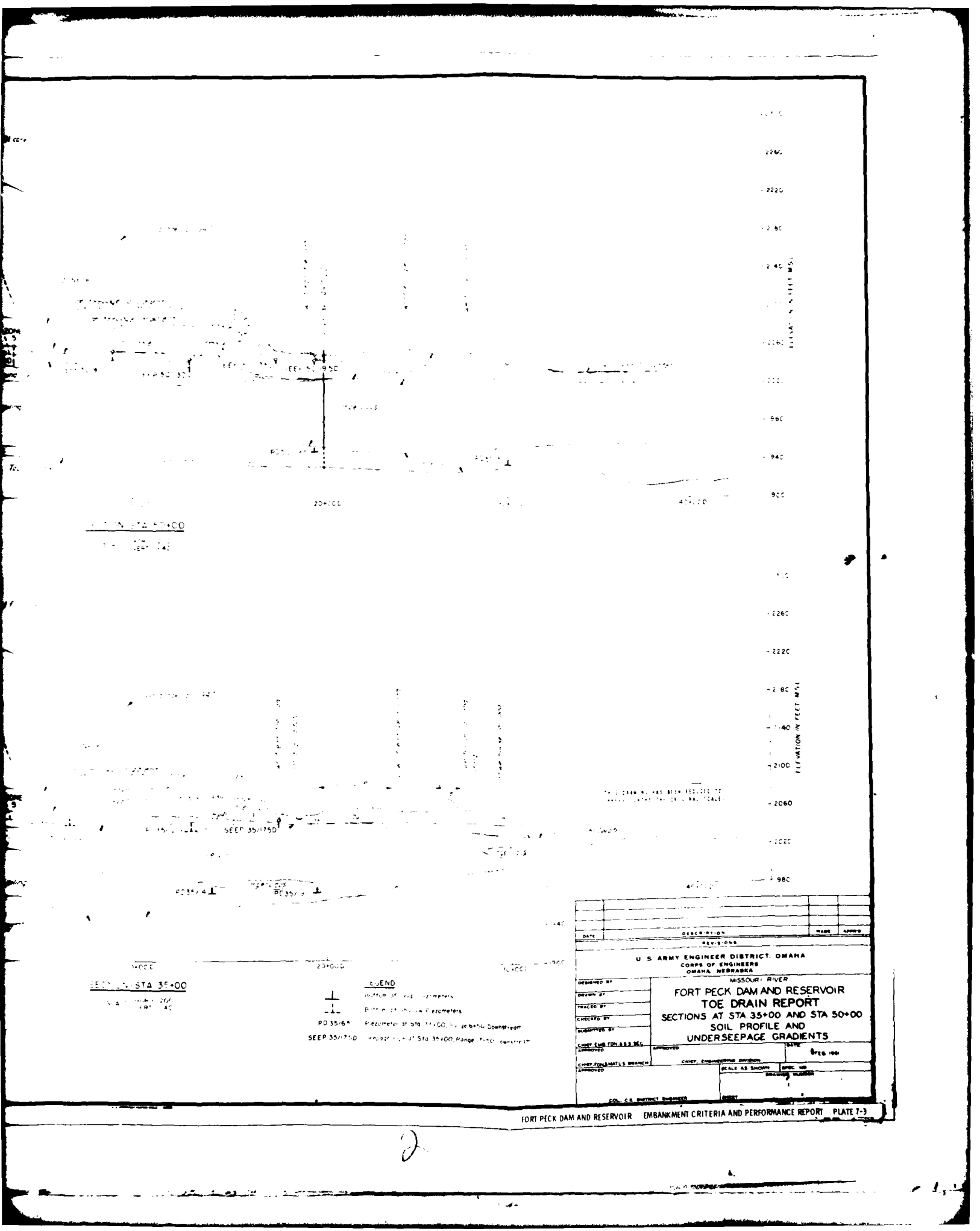
368

Figure 5

CORPS OF ENGINEERS, U. S. ARMY







SECTION STA 35+00

SECTION STA 35+00

20+00

20+00

40+00

40+00

END

PD 35/6A

SEEP 35/75D

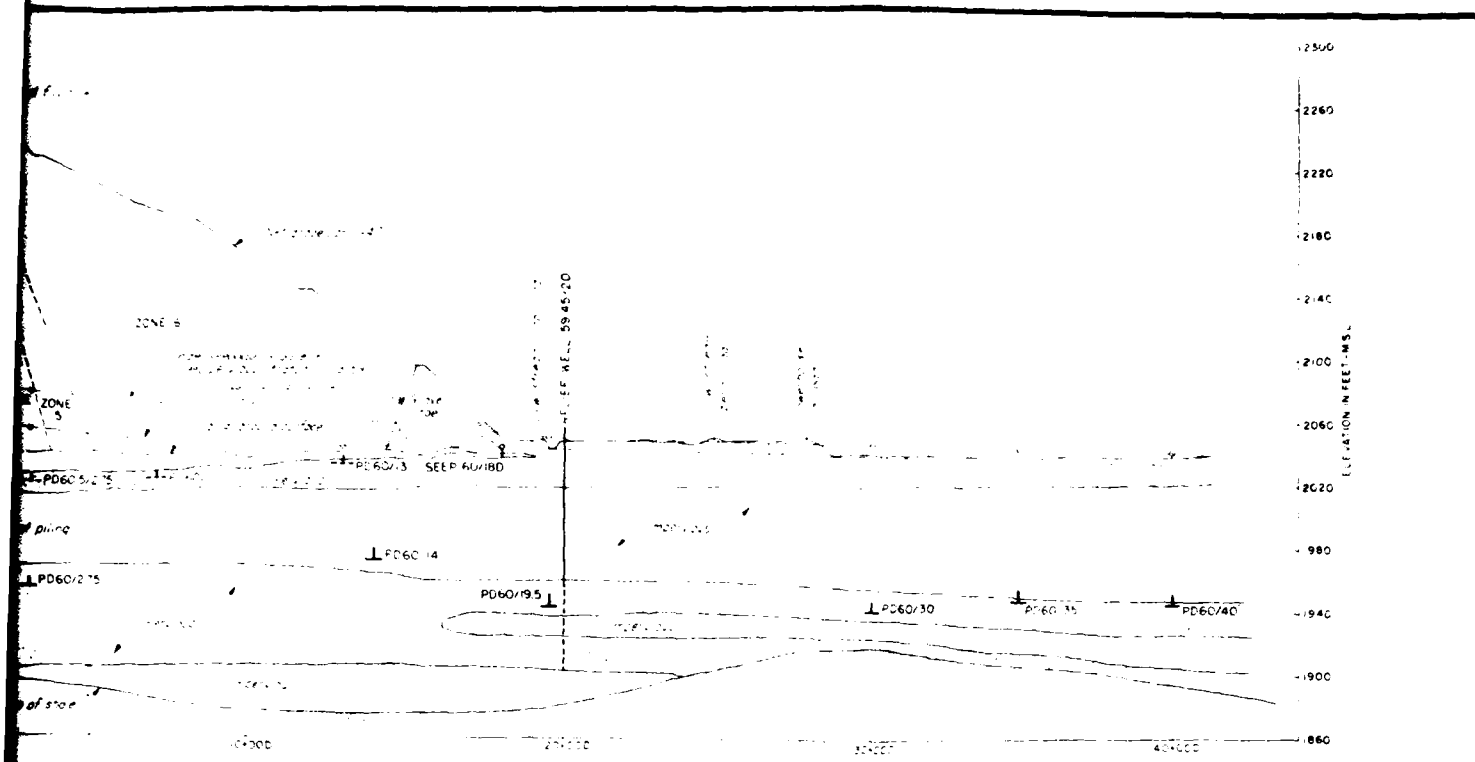
Bottom of toe drain

Bottom of toe drain

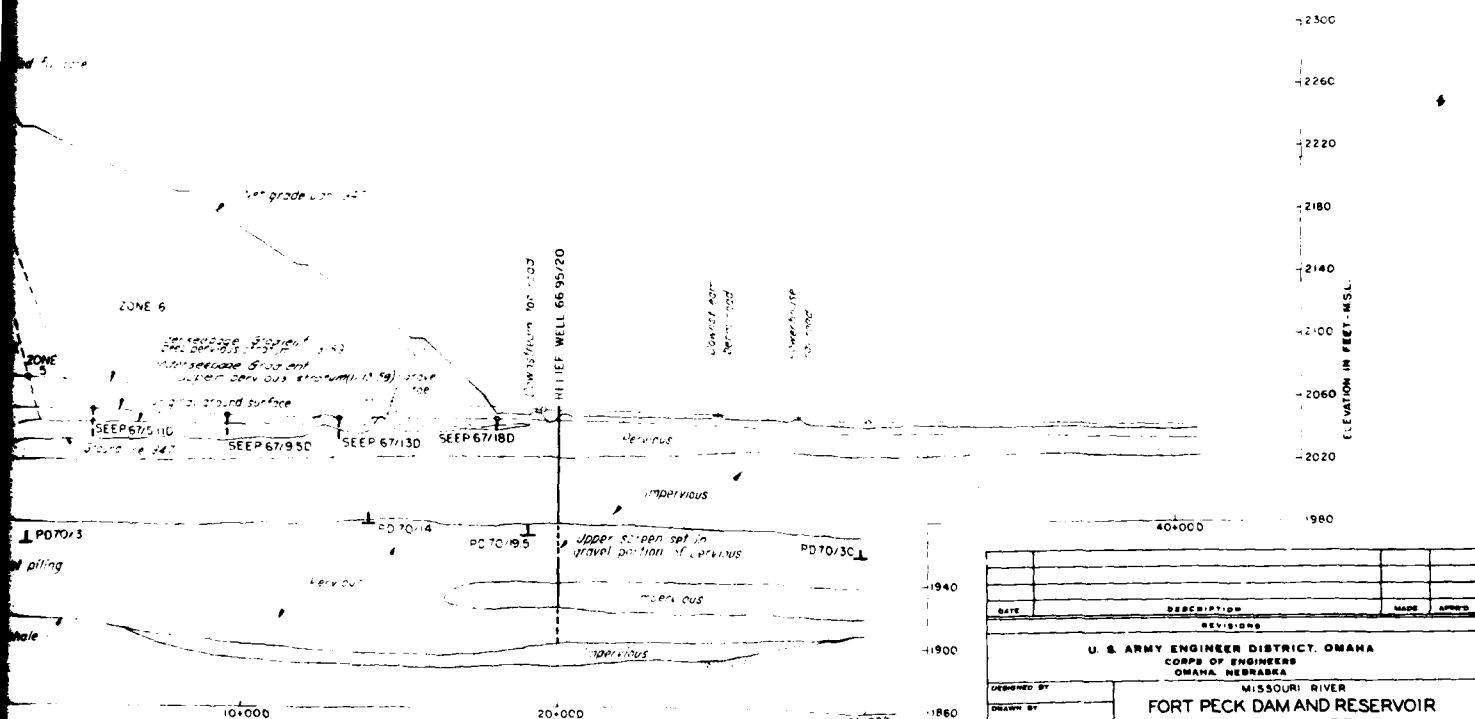
Piezometer at Sta 35+00, toe drain downstream

Piezometer at Sta 35+00, Range 1000, centerline

DATE	DESCRIPTION	MADE	APPROVED
REV. 8-0-0			
U S ARMY ENGINEER DISTRICT OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA			
DESIGNED BY	MISSOURI RIVER		
DRAWN BY	FORT PECK DAM AND RESERVOIR		
CHECKED BY	TOE DRAIN REPORT		
SUBMITTED BY	SECTIONS AT STA 35+00 AND STA 50+00		
CHIEF CIVIL ENGINEER	SOIL PROFILE AND		
APPROVED	UNDERSEEPAGE GRADIENTS		
CHIEF ENGINEERING DIVISION	DATE		
CHIEF DISTRICT BRANCH	8 FEB 1961		
SCALE AS SHOWN	SHEET NO		
DRAWING NUMBER	1		



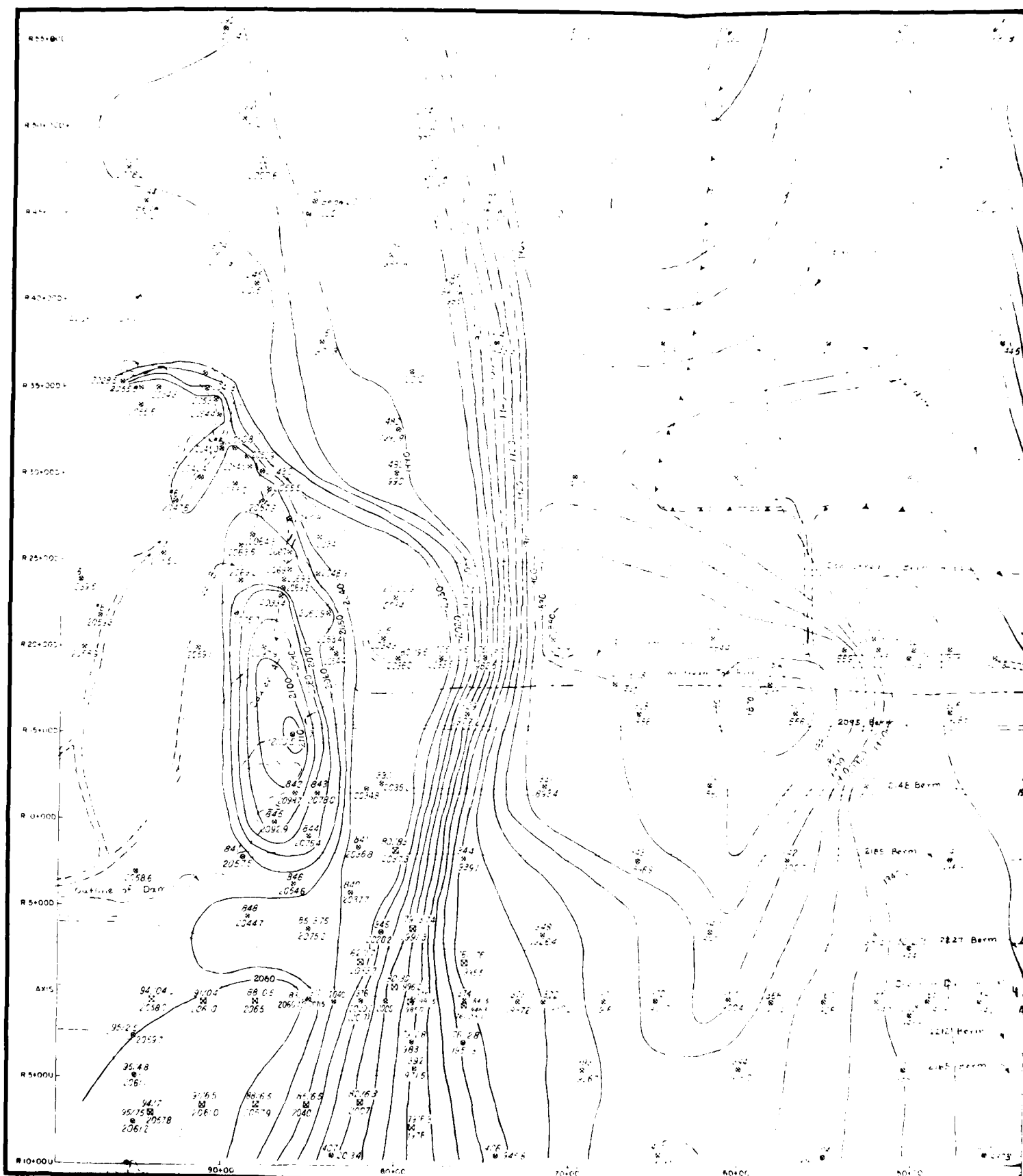
SECTION-STA. 60+00
SCALE HORIZ. 1"=200' VERT. 1"=40'

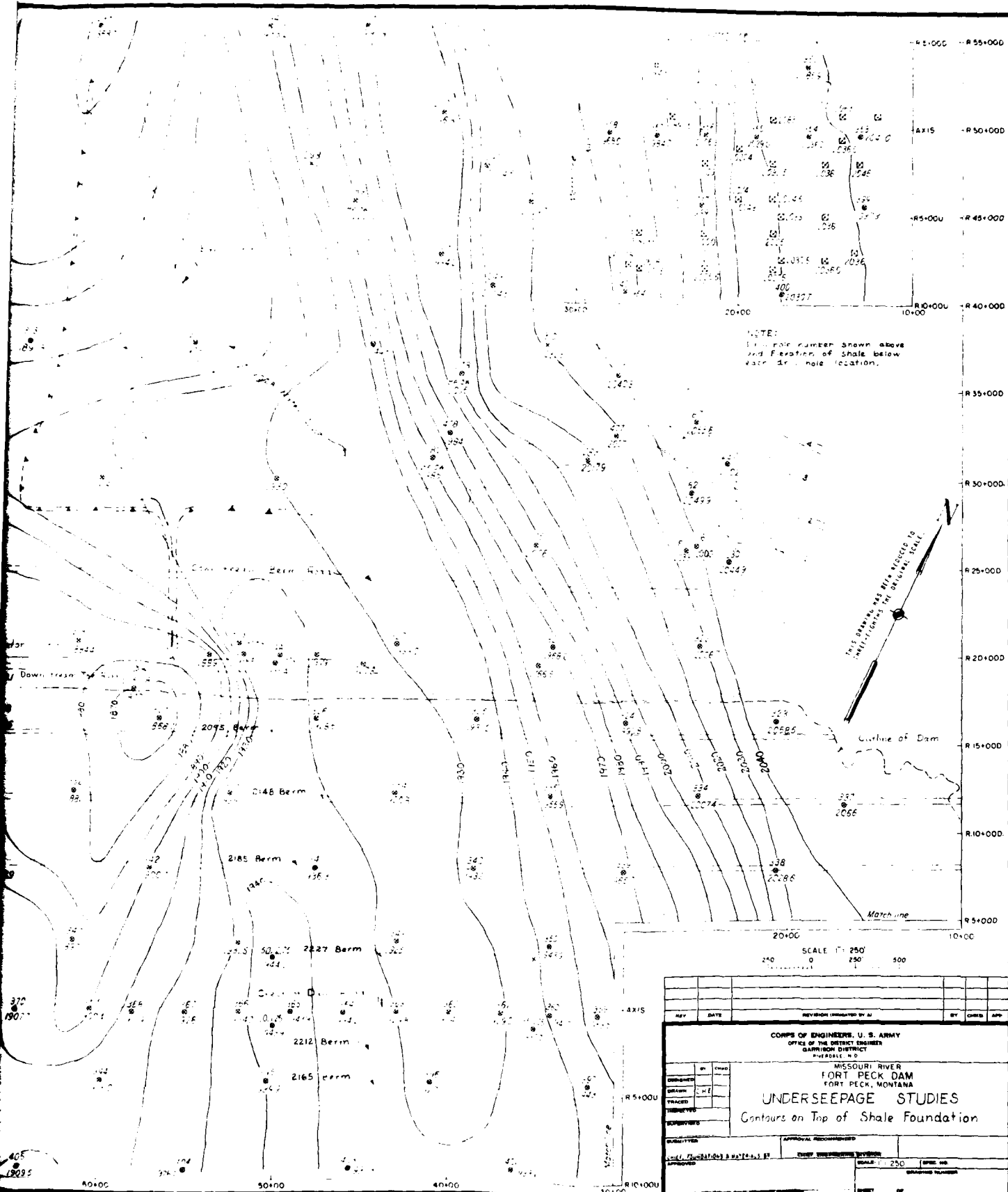


SECTION-STA. 67+00
SCALE HORIZ. 1"=200' VERT. 1"=40'

LEGEND
 1 Bottom of Deep Piezometers
 1 Bottom of Shallow Piezometers
 PD70/3 - Piezometer at Sta. 70+00, Range 3+00 Downstream
 SEEP 67/13D - Seepage Pipe at Sta. 67+00, Range 13+00 Downstream
 THIS DRAWING HAS BEEN REDUCED TO THREE-EIGHTHS THE ORIGINAL SCALE.

DATE		DESCRIPTION		MADE	APPROVED
REVISIONS					
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
DESIGNED BY		MISSOURI RIVER			
DRAWN BY		FORT PECK DAM AND RESERVOIR TOE DRAIN REPORT			
CHECKED BY		SECTIONS AT STA 60+00 AND STA 67+00 SOIL PROFILE AND UNDERSEEPAGE GRADIENTS			
SUBMITTED BY		CHIEF EMB. DIV. AREA SEC.			
APPROVED BY		CHIEF EMB. DIV. AREA SEC.		FEB 1961	
APPROVED BY		CHIEF ENGINEERING DIVISION		SCALE AS SHOWN	
APPROVED BY		CHIEF ENGINEERING DIVISION		ENGINE NUMBER	
COL. C.A. DISTRICT ENGINEER					





REV.	DATE	REVISION (INITIALS BY)	BY	CHKD	APP.

CORPS OF ENGINEERS, U.S. ARMY
OFFICE OF THE DISTRICT ENGINEER
GARRISON DISTRICT
FORT PECK, MONTANA

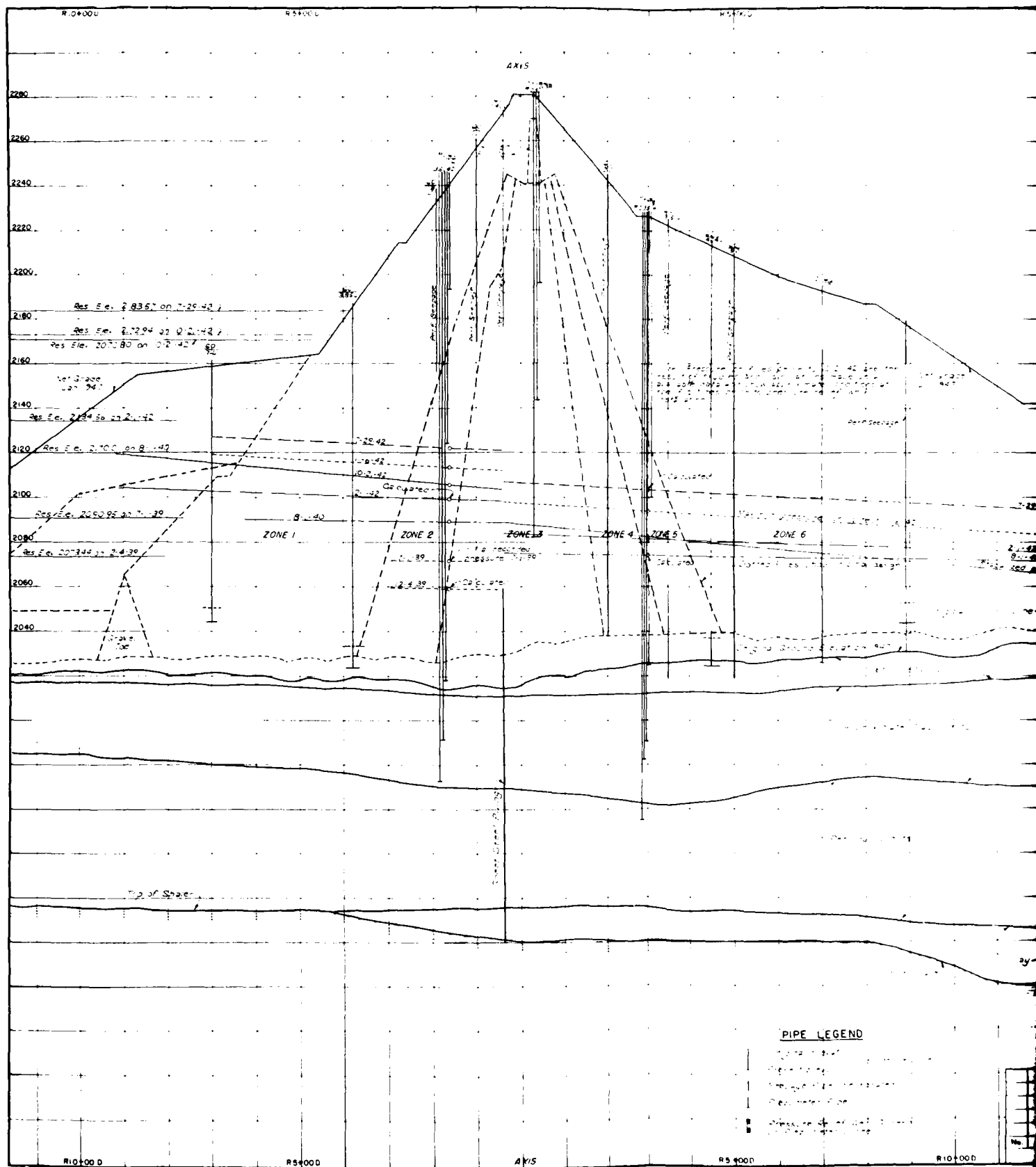
MISSOURI RIVER
FORT PECK DAM
FORT PECK, MONTANA

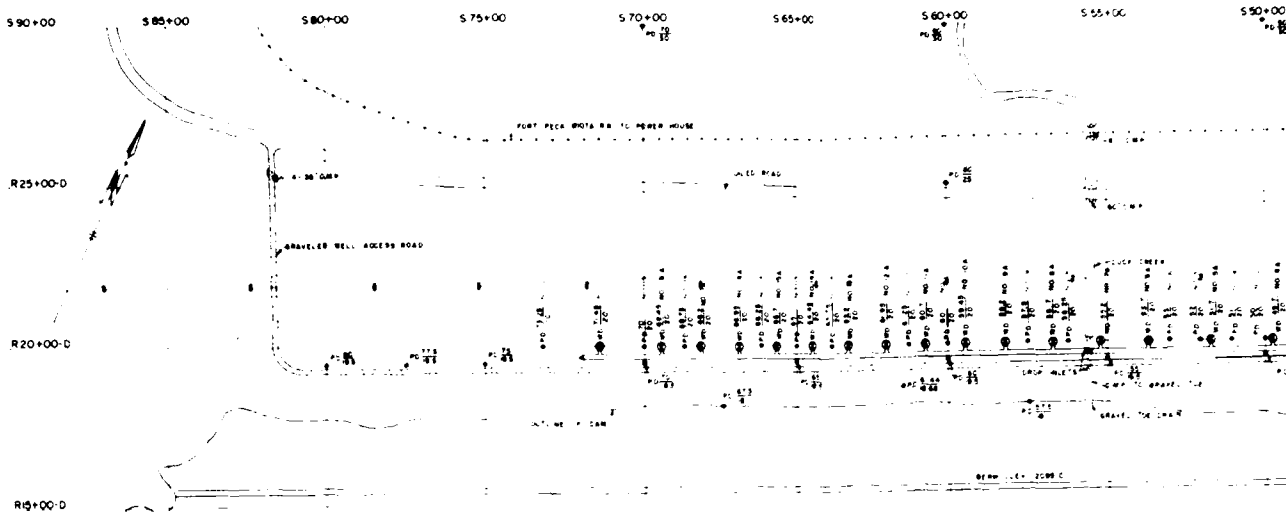
UNDERSEEPAGE STUDIES
Contours on Top of Shale Foundation

DESIGNED BY: []
CHECKED BY: []
APPROVED BY: []
DATE: []

SCALE: 1" = 250'

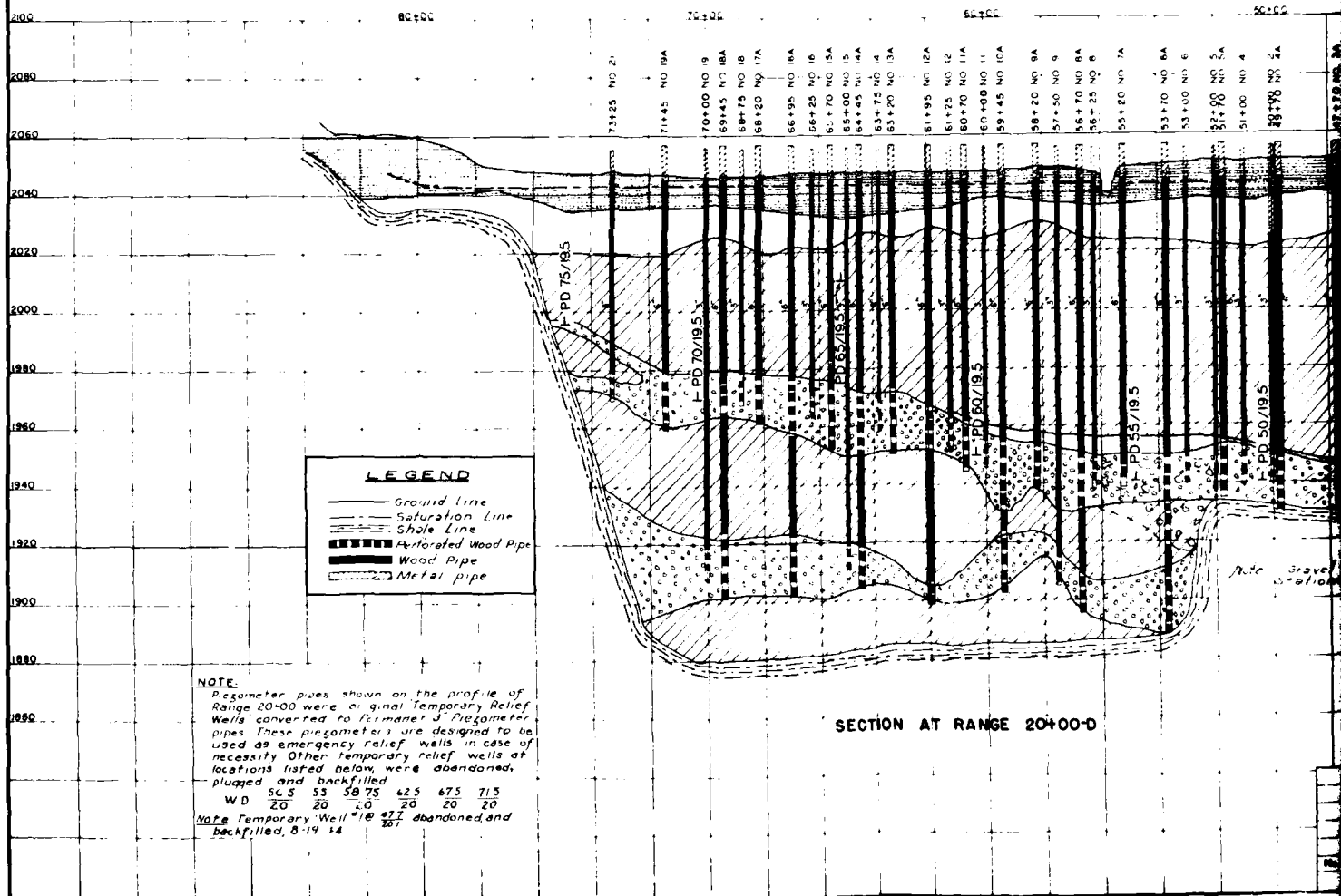
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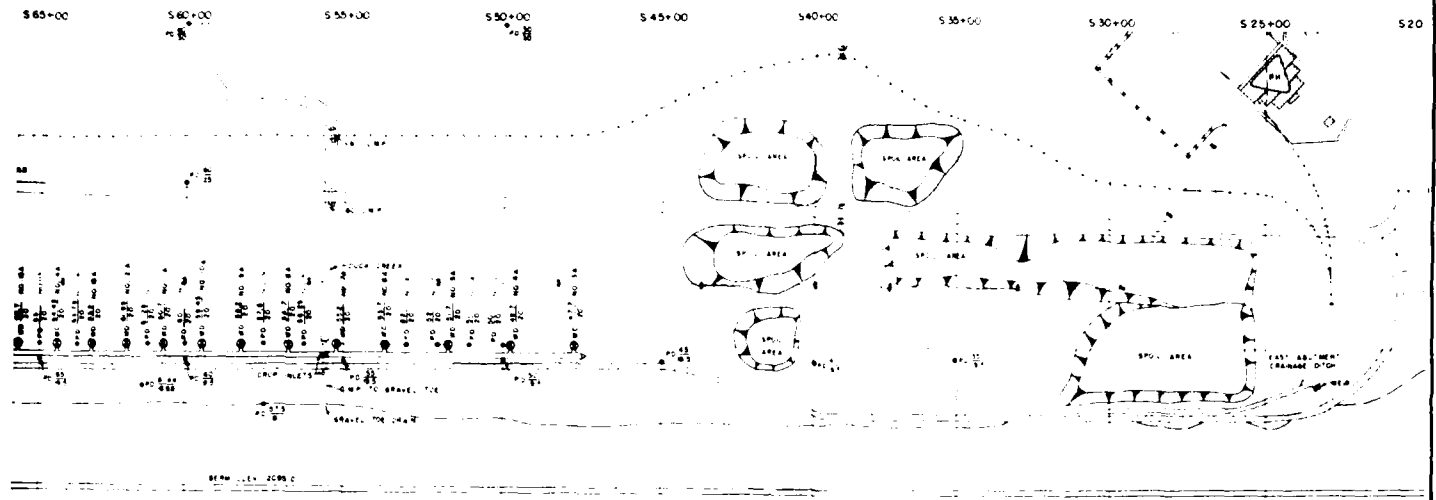




PLAN

0 100 200 300 400 500 FEET

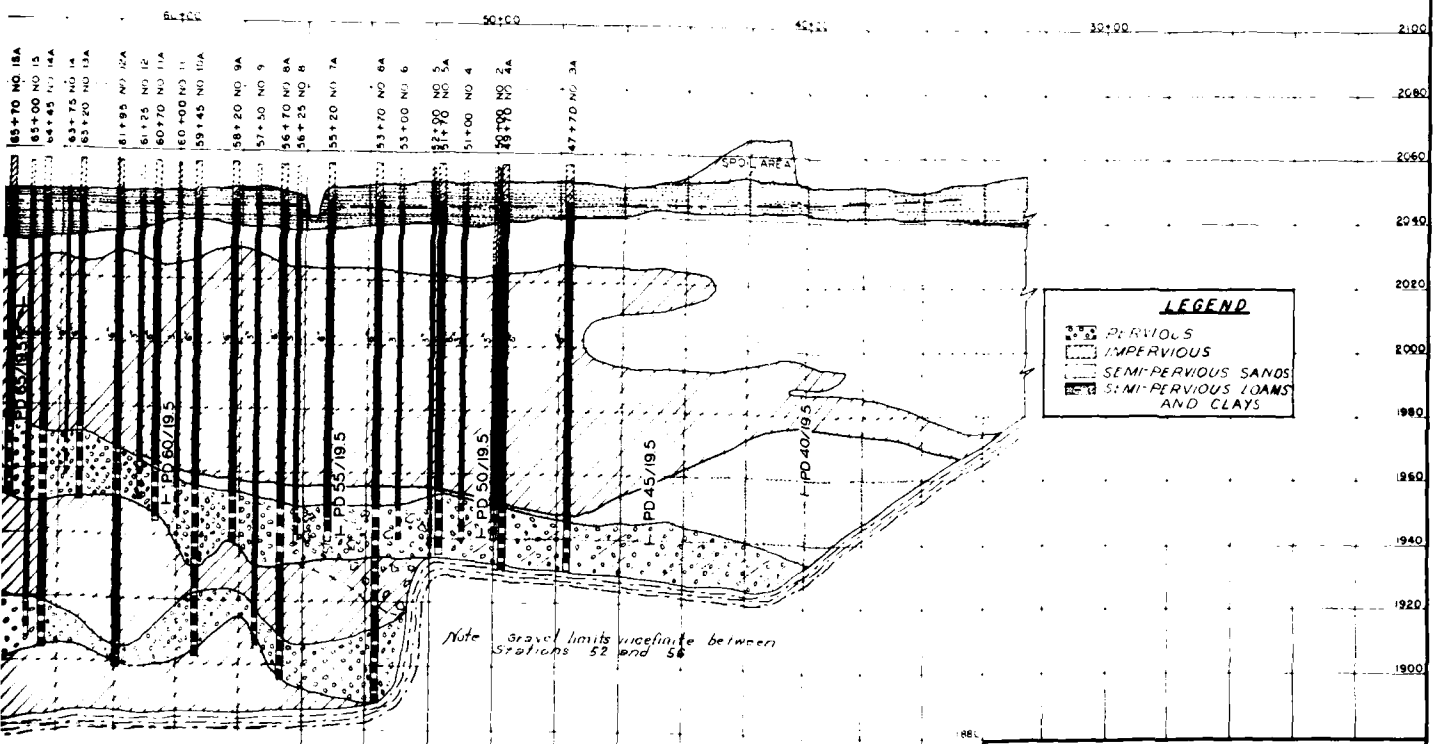




PLAN

LEGEND

- Permanent Pressure Relief Well
- Piezometer Pipe (18" dia)



SECTION AT RANGE 20+00-D

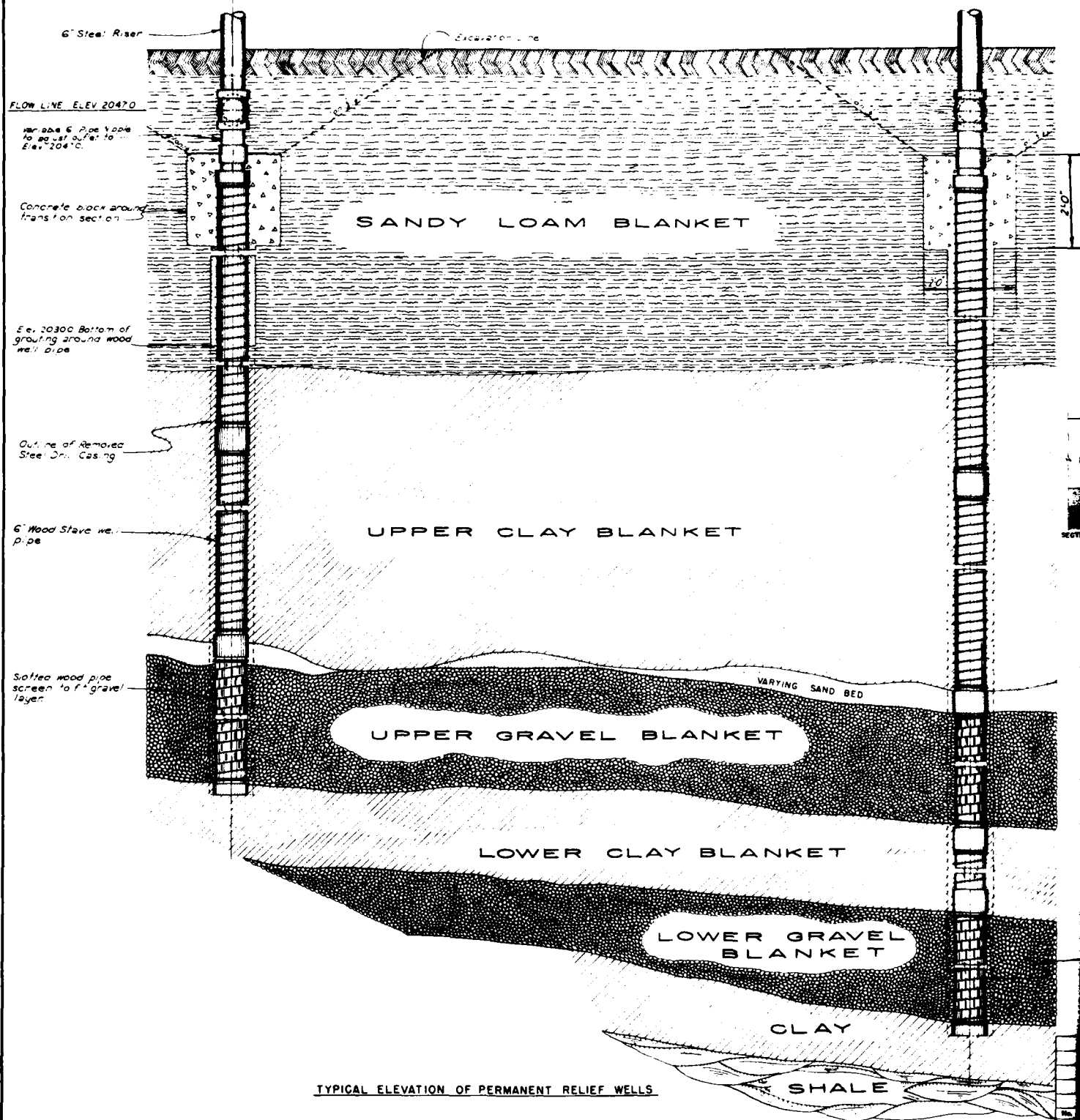
- LEGEND**
- PERVIOUS
 - IMPERVIOUS
 - SEMI-PERVIOUS SANDS
 - SEMI-PERVIOUS LOAMS AND CLAYS

MISSOURI RIVER IMPROVEMENT			
FORT PECK DAM			
PERMANENT WELL RELIEF SYSTEM AND PERMANENT PIEZOMETER INSTALLATIONS ALONG RANGE 20+00-D			
IN SHEETS	SCALE AS SHOWN	SHEET NO.	
Submitted	Approved Recommended	Approved	
FOR REVISION	FOR REVISION	FOR REVISION	
Drawn: J.W.	Checked: J.W.	No. 6296.93A-6A	

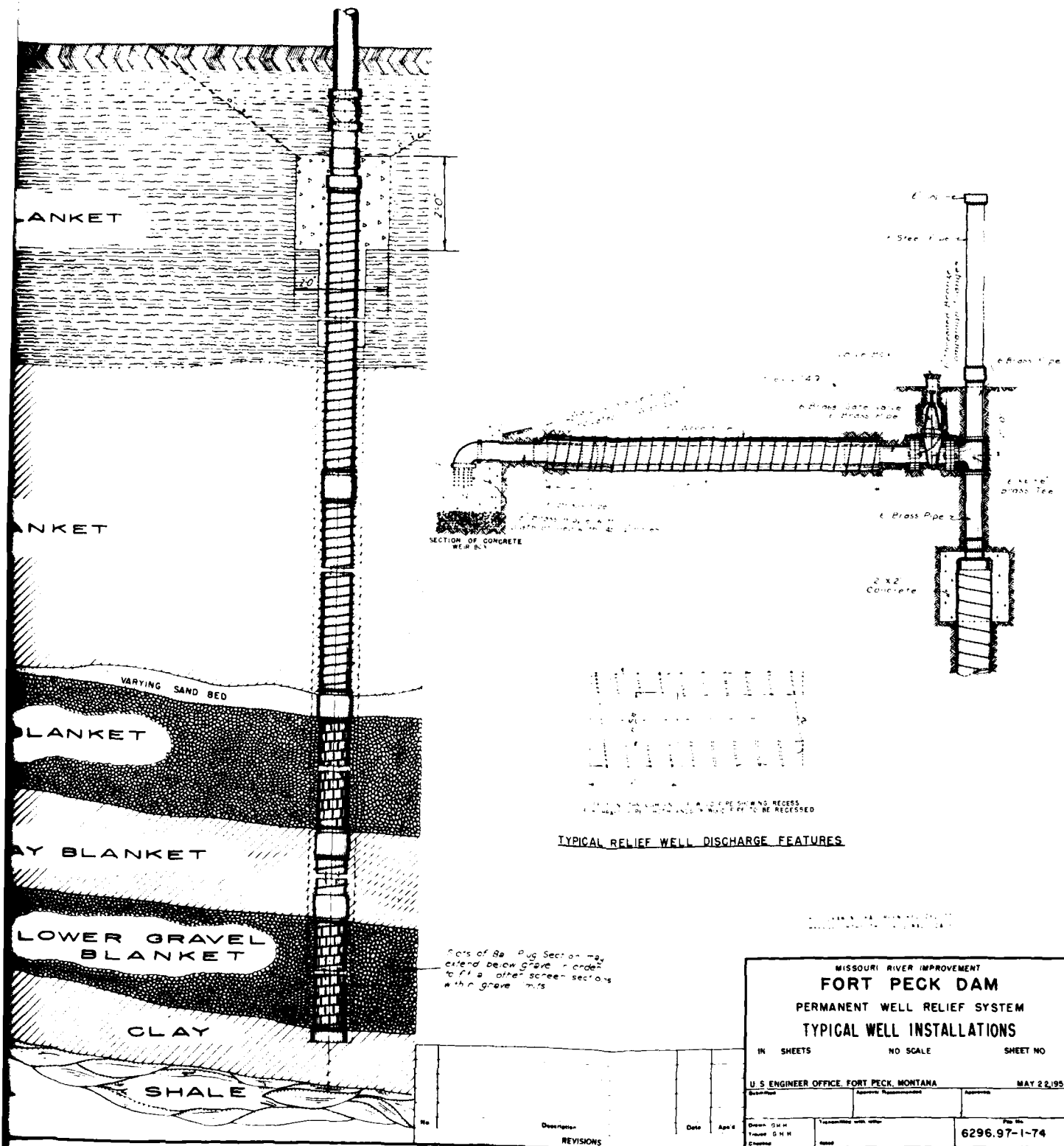
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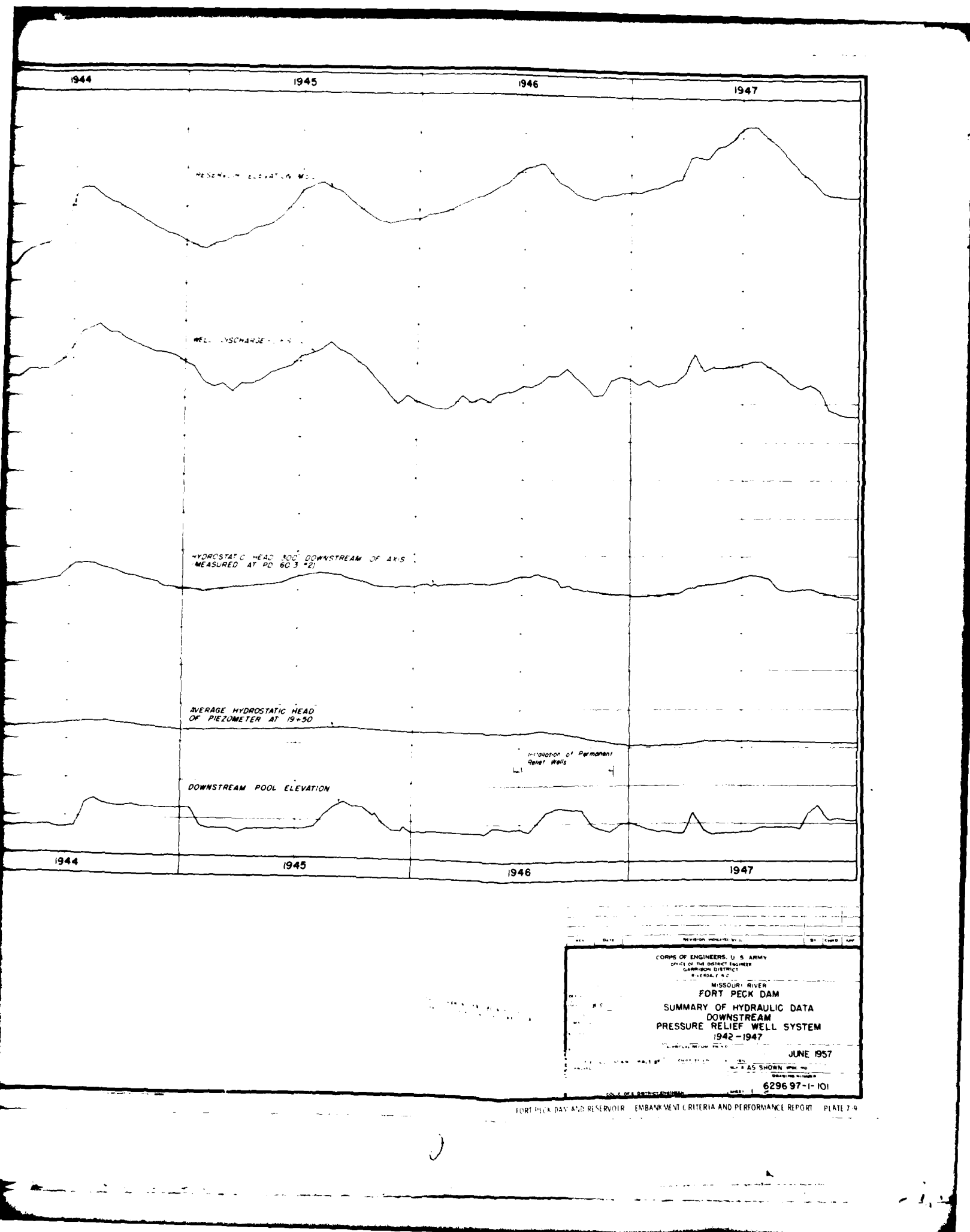
TYPICAL WELL INSTALLATION
TAPPING UPPER GRAVEL BLANKET ONLY.

TYPICAL WELL INSTALLATION
TAPPING BOTH UPPER AND LOWER
GRAVEL BLANKETS

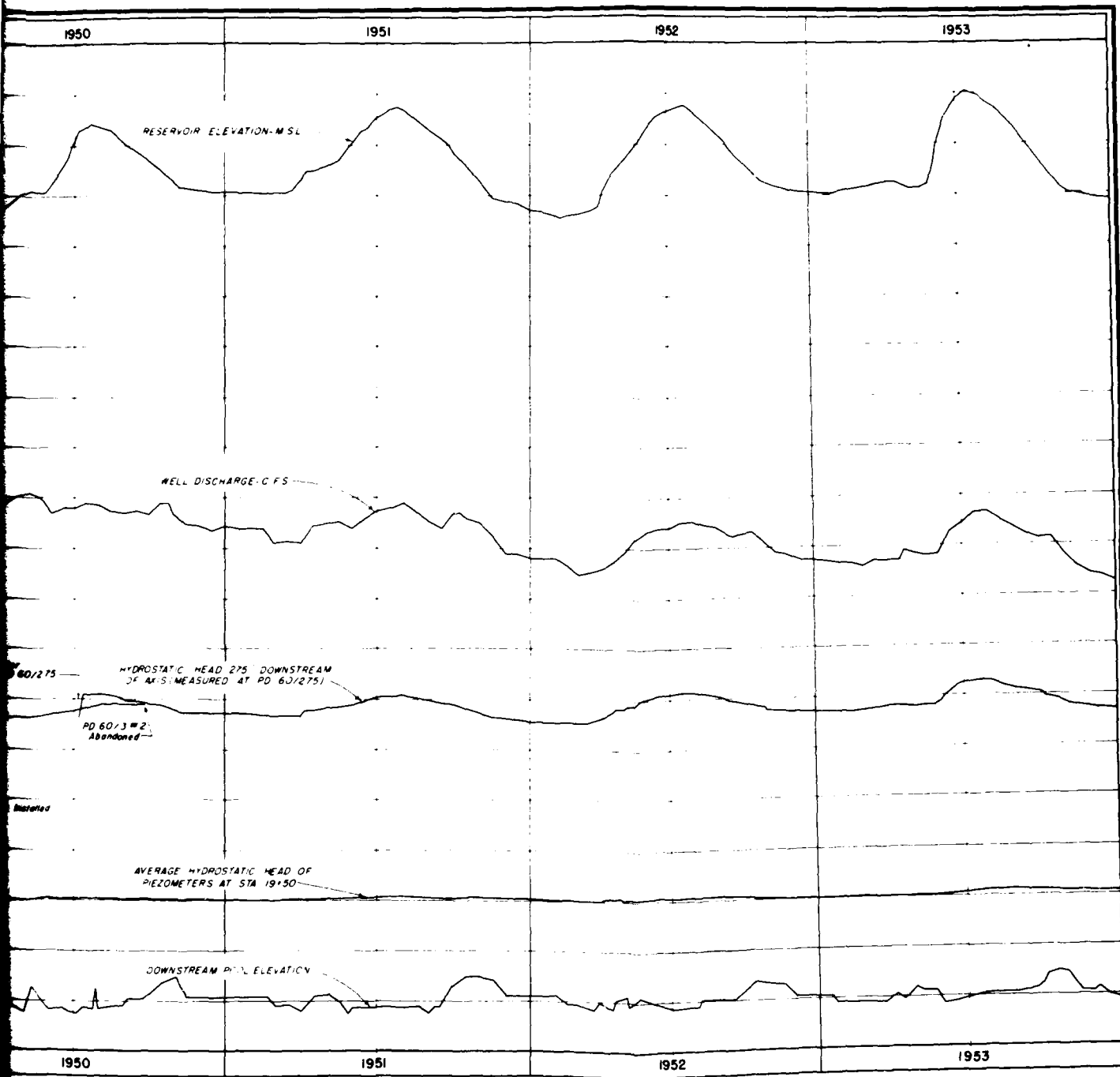


TYPICAL WELL INSTALLATION
TAPPING BOTH UPPER AND LOWER
GRAVEL BLANKETS

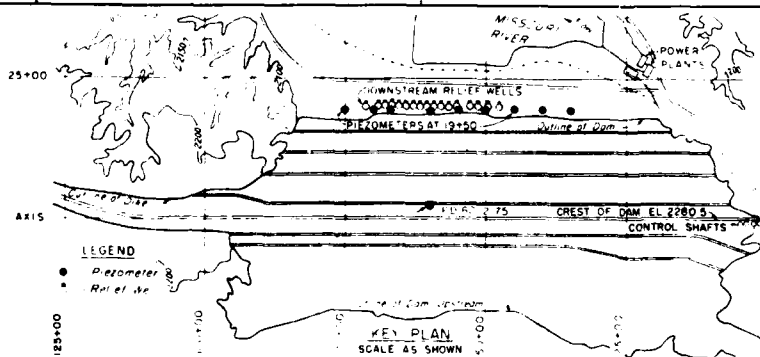
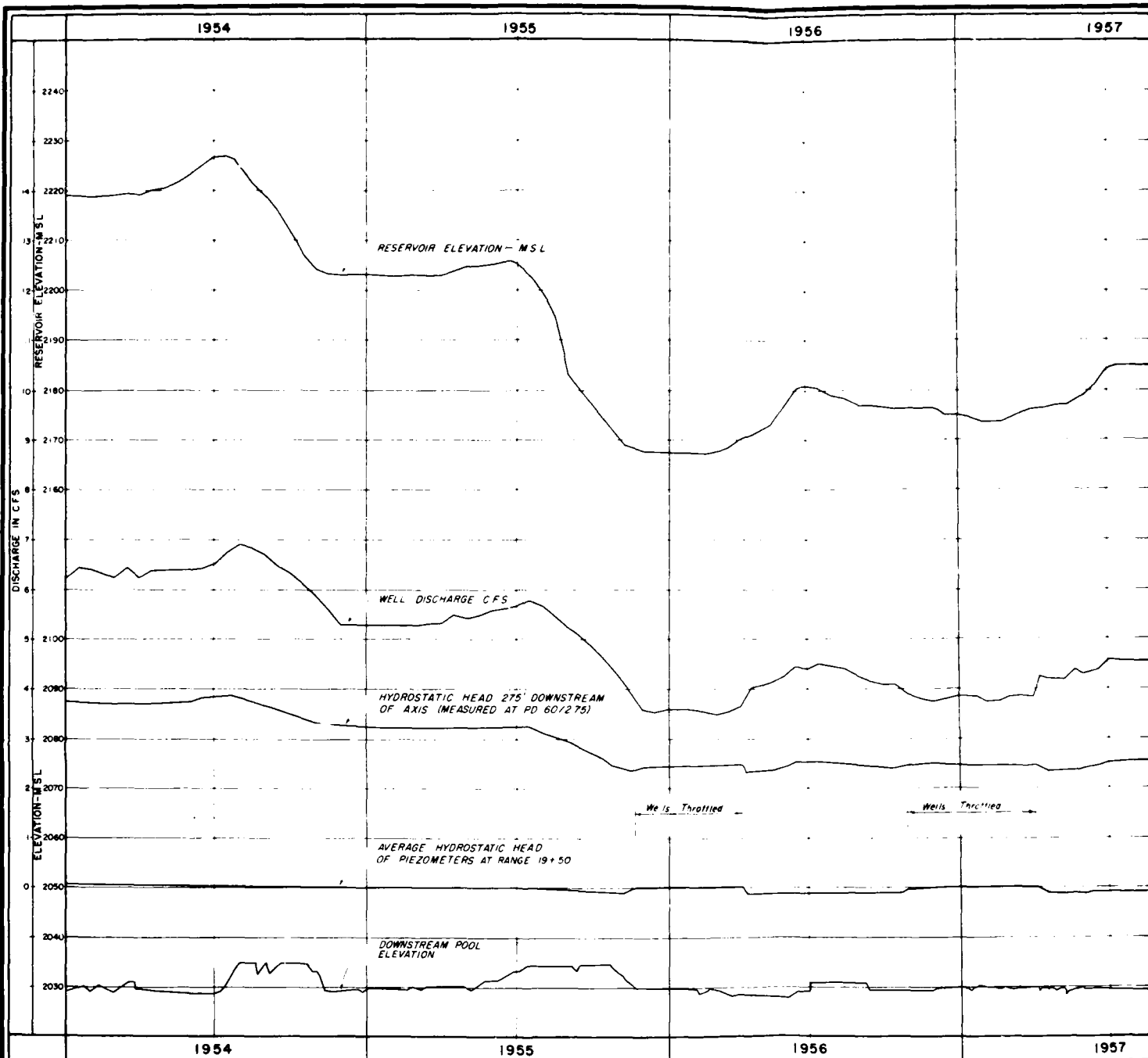


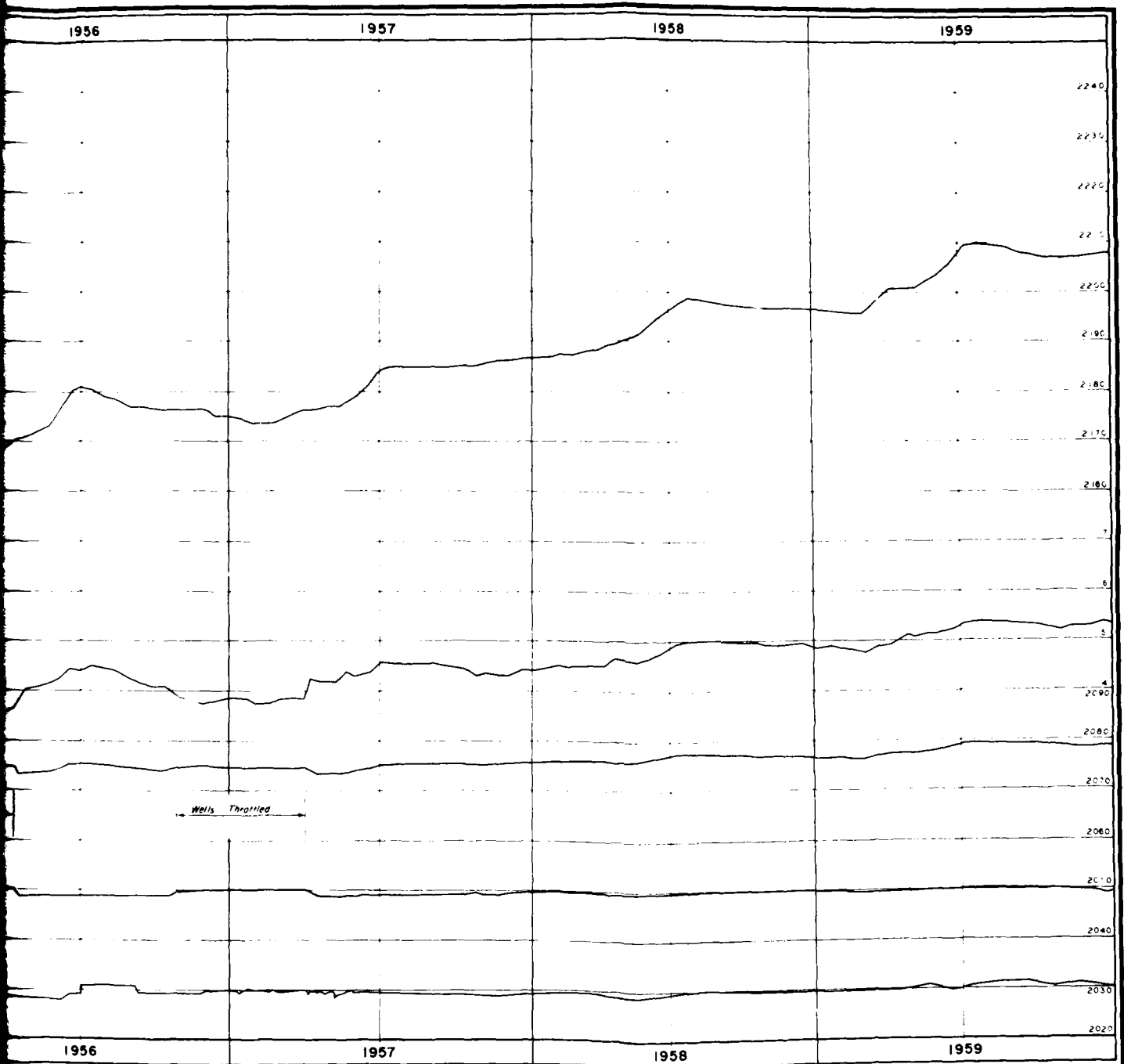


REV.	DATE	REVISION MADE BY	BY	DATE
CORPS OF ENGINEERS, U. S. ARMY OFFICE OF THE DISTRICT ENGINEER GARRISON DISTRICT ST. LOUIS, MO. MISSOURI RIVER FORT PECK DAM SUMMARY OF HYDRAULIC DATA DOWNSTREAM PRESSURE RELIEF WELL SYSTEM 1942-1947 JUNE 1957 AS SHOWN SPEC. NO. DRAWING NUMBER 6296 97-1-101				

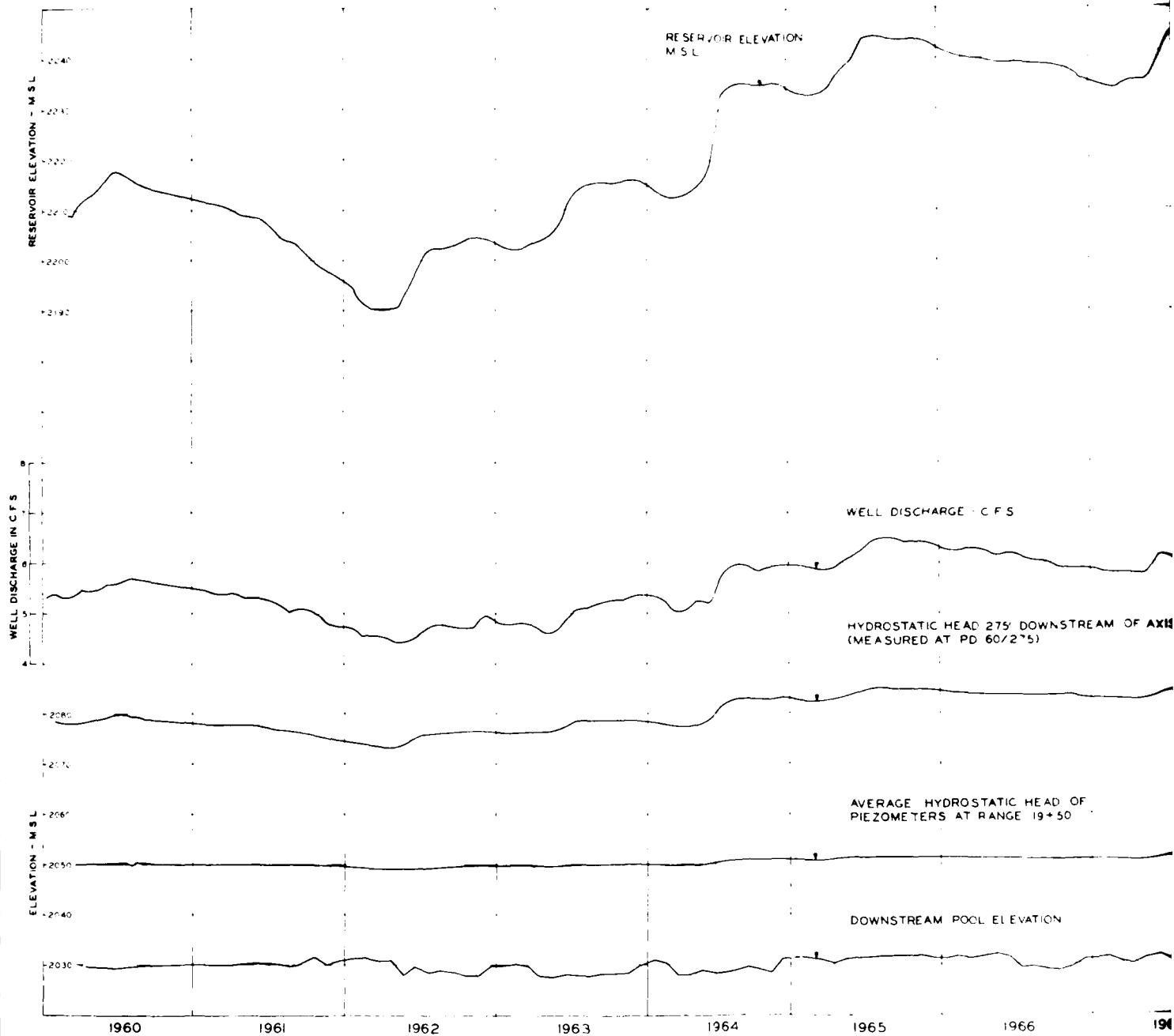


DESIGNED BY	DATE	REVISION	REVISION BY	BY	CHKD	APP
CORPS OF ENGINEERS, U. S. ARMY OFFICE OF THE DISTRICT ENGINEER GARRISON DISTRICT EVERDALE, ILL.						
MISSOURI RIVER FORT PECK DAM SUMMARY OF HYDRAULIC DATA DOWNSTREAM PRESSURE RELIEF WELL SYSTEM 1948-1953						
APPROVED	APPROVAL RECOMMENDED	JUNE 1957				
CHIEF, FOUNDATIONS & MATERIALS	CHIEF, ENGINEERING DIVISION	SCALE AS SHOWN, SHEET NO.				
6296 97-1 102		SHEET 2				





REV.	DATE	REVISION (INITIALED BY)	BY	CHKD	APP
<p>CORPS OF ENGINEERS, U. S. ARMY OFFICE OF THE DISTRICT ENGINEER GARRISON DISTRICT RIVERDALE, ILL.</p> <p>MISSOURI RIVER FORT PECK DAM SUMMARY OF HYDRAULIC DATA DOWNSTREAM PRESSURE RELIEF WELL SYSTEM 1954-1959</p> <p>DESIGNED BY: _____ CHECKED BY: _____ APPROVED BY: _____ DATE: JUNE 1957</p> <p>APPROVAL RECOMMENDED BY: _____ DATE: _____</p> <p>DESIGNING NUMBER: 6296 97-1-103</p>					



RESERVOIR ELEVATION

WELL DISCHARGE - C.F.S.

HYDROSTATIC HEAD 275' DOWNSTREAM OF AXIS
(MEASURED AT PD 60/275)

AVERAGE HYDROSTATIC HEAD OF
PIEZOMETERS AT RANGE 19+50

DOWNSTREAM POOL ELEVATION

NO RECORD

1964

1965

1966

1967

1968

1969

1970

1971



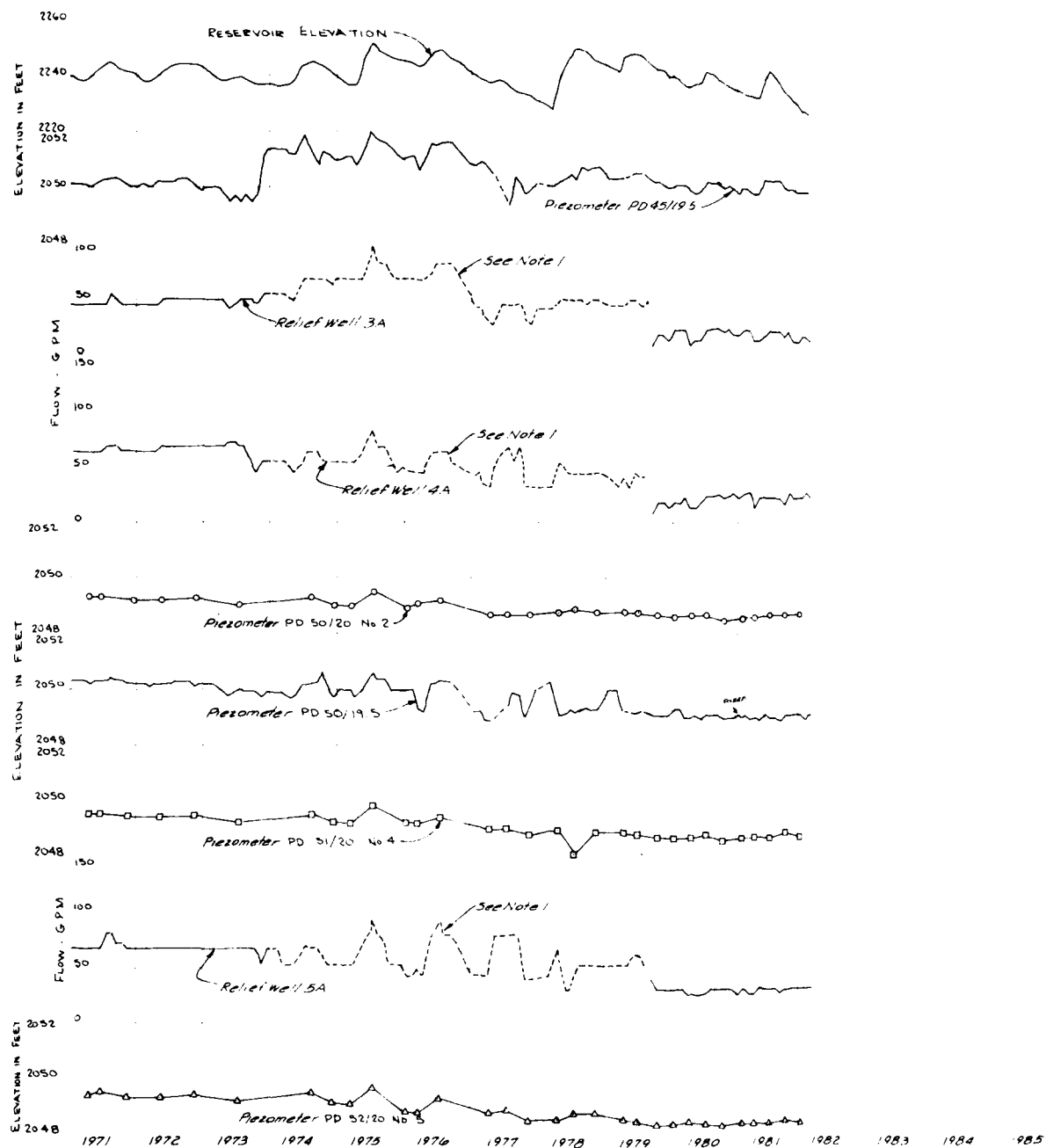
THIS PLAN ACCORDS WITH CONTRACT NO.
MODIFICATION NO.

DATE	DESCRIPTION	MADE	APPROVED
REVISIONS			
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA			
DESIGNED BY		MISSOURI RIVER	
DRAWN BY		FORT PECK LAKE, MONTANA	
CHECKED BY		SUMMARY OF HYDRAULIC DATA	
SUBMITTED BY		DOWNSTREAM	
ENGINEER'S NAME		PRESSURE RELIEF WELL SYSTEM	
APPROVED		1960-1971	
ENGINEER	APPROVED	DATE	
ENGINEER	APPROVED	DATE	
ENGINEER	APPROVED	DATE	

FORT PECK DAM AND RESERVOIR

EMBANKMENT CRITERIA AND PERFORMANCE REPORT

PLATE 7-12



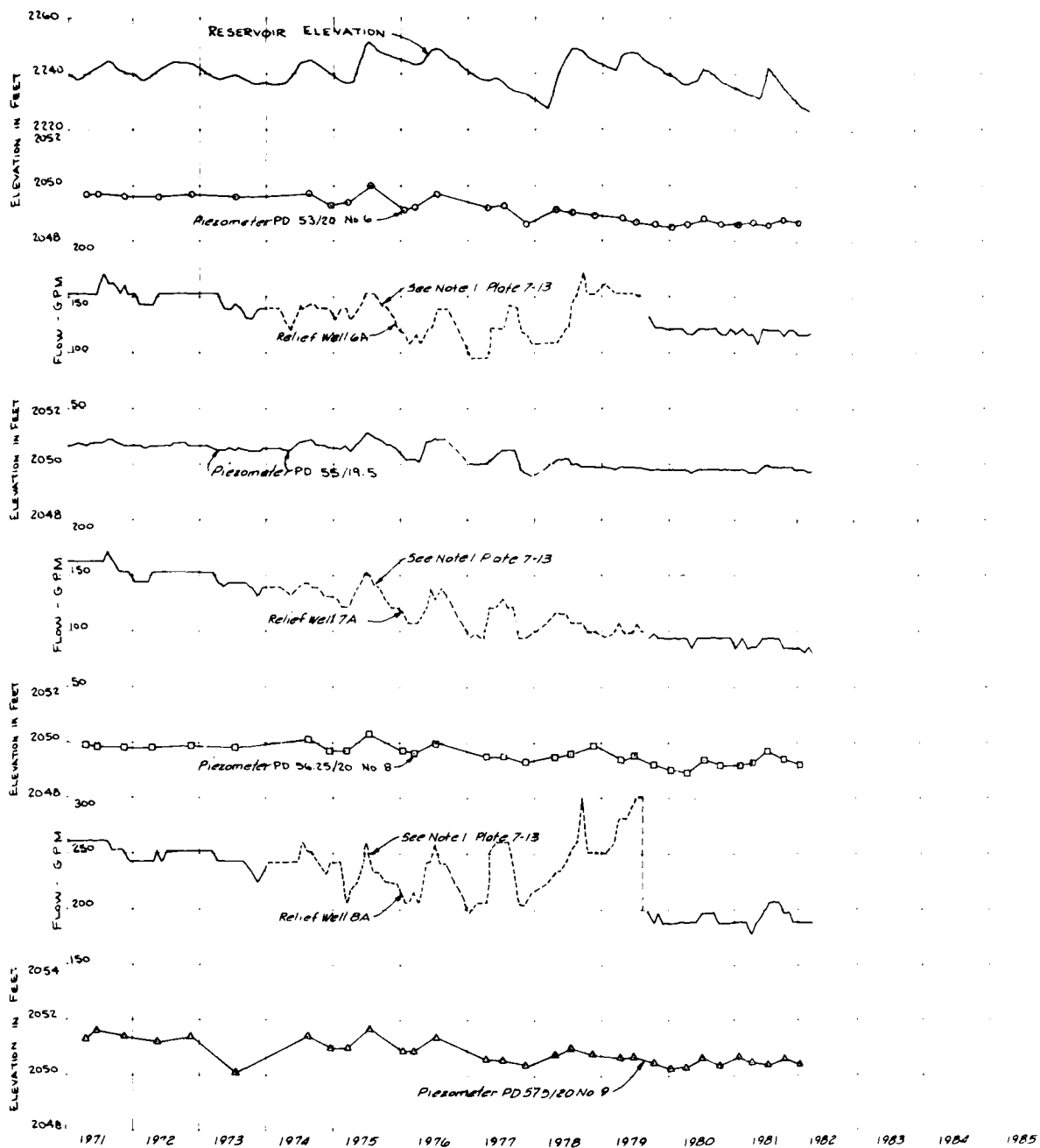
1982 1983 1984 1985

THIS DRAWING HAS BEEN REDUCED TO
MATCH THE ORIGINAL SCALE.



THIS PLAN ACCOMPANIES CONTRACT NO.
MODIFICATION NO.

DATE		DESCRIPTION		MADE	APPROVED
REVISIONS					
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
DESIGNED BY:		MISSOURI RIVER			
DRAWN BY:		FORT PECK LAKE MONTANA			
CHECKED BY:		SUMMARY OF HYDRAULIC DATA FOR			
SUBMITTED BY:		DOWNSTREAM PRESSURE RELIEF WELL SYSTEM, 1971 - 1982			
SHEET		SECTION		STA. 45+00 - 52+00	
RECORDED		APPROVED		DATE	
SHEET		SCALE		SHEET ENGINEERING DIVISION	
APPROVED		SCALE AS SHOWN		SHEET NO.	
DR. E. L. BENTLEY ENGINEER		SHEET		DRAWING NUMBER	



1982 1983 1984 1985

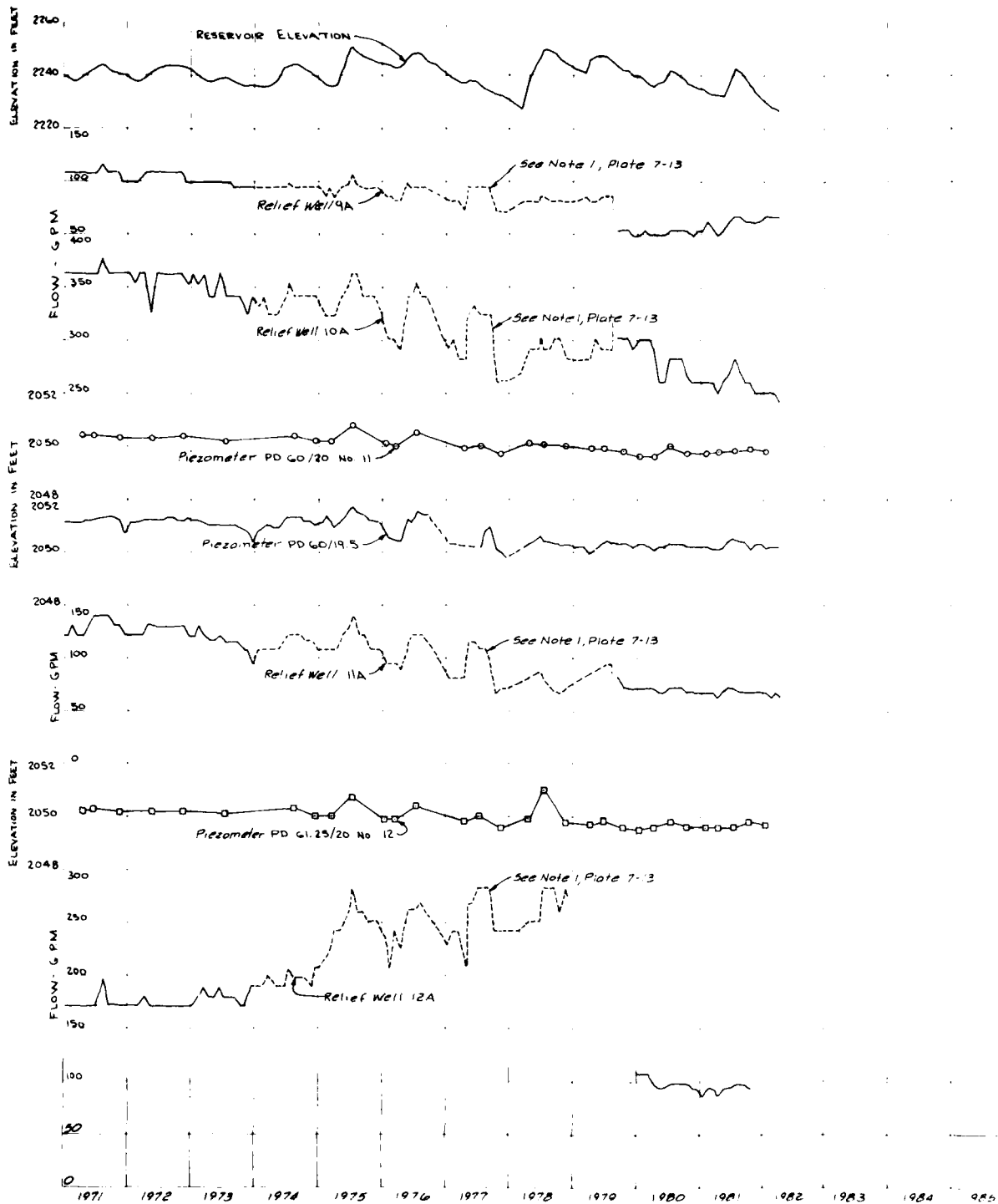
THIS DRAWING HAS BEEN REDUCED TO
THIRTY-FOURTHS THE ORIGINAL SCALE.



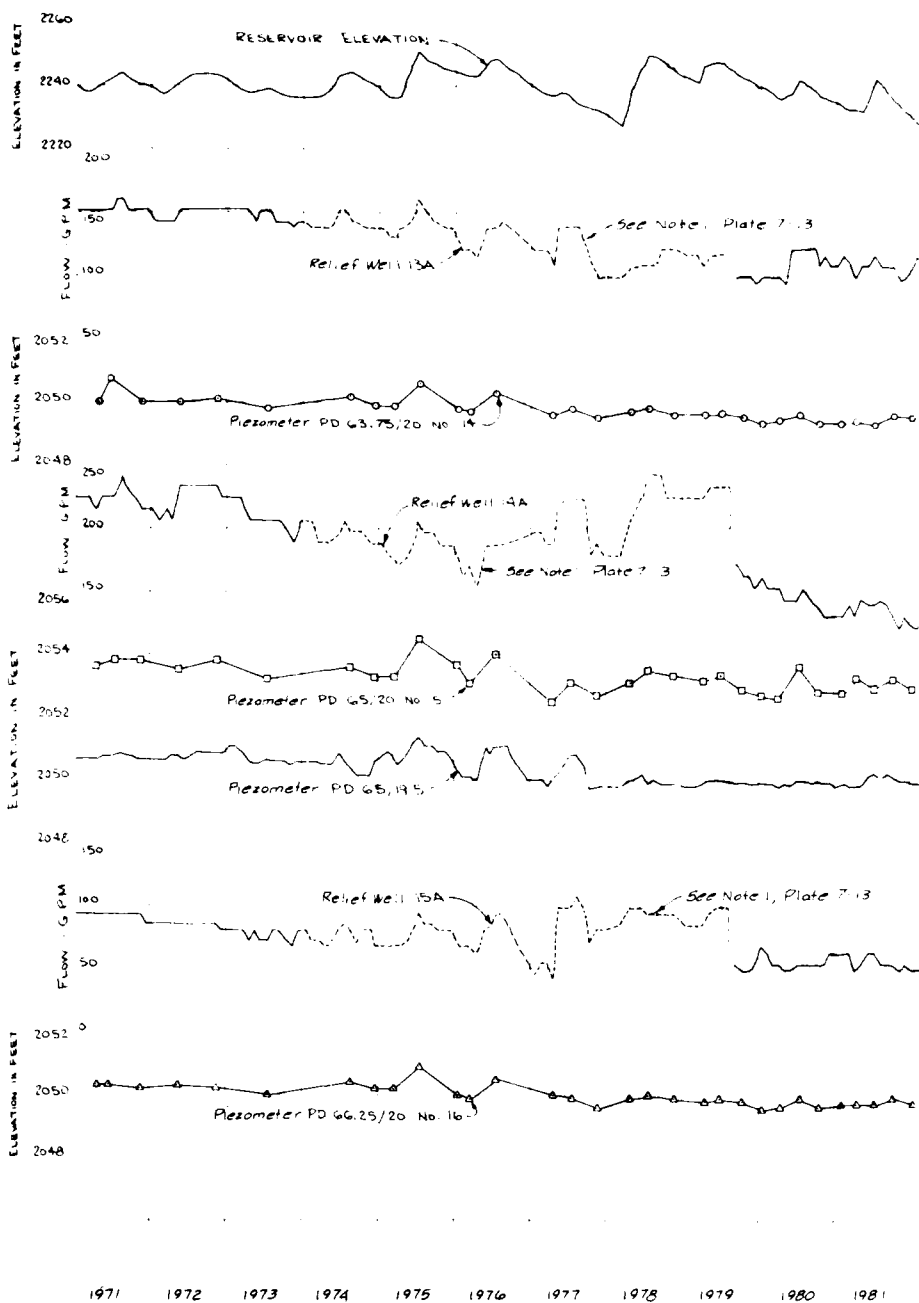
THIS PLAN ACCOMPANIES CONTRACT NO.
MODIFICATION NO.

DATE		DESCRIPTION		MADE	APPROVED
REVISIONS					
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
DESIGNED BY:		MISSOURI RIVER FORT PECK LAKE MONTANA SUMMARY OF HYDRAULIC DATA FOR DOWNSTREAM PRESSURE RELIEF WELL SYSTEM, 1971 - 1982 (STA. 52+00 - 58+00)			
DRAWN BY:					
CHECKED BY:					
QUANTITY BY:					
UNIT	SECTION	APPROVED:	DATE		
UNIT	SECTION	UNIT CHIEF ENGINEER DIVISION	DATE		
APPROVED:	SCALE: AS SHOWN	SHEET NO.			
SHEET		SHEET			

2



FORT PECK DAM AND RESERVOIR EMBANKMENT CRITERIA AND PERFORMANCE REPORT PLATE 7-15



282 284 286 285

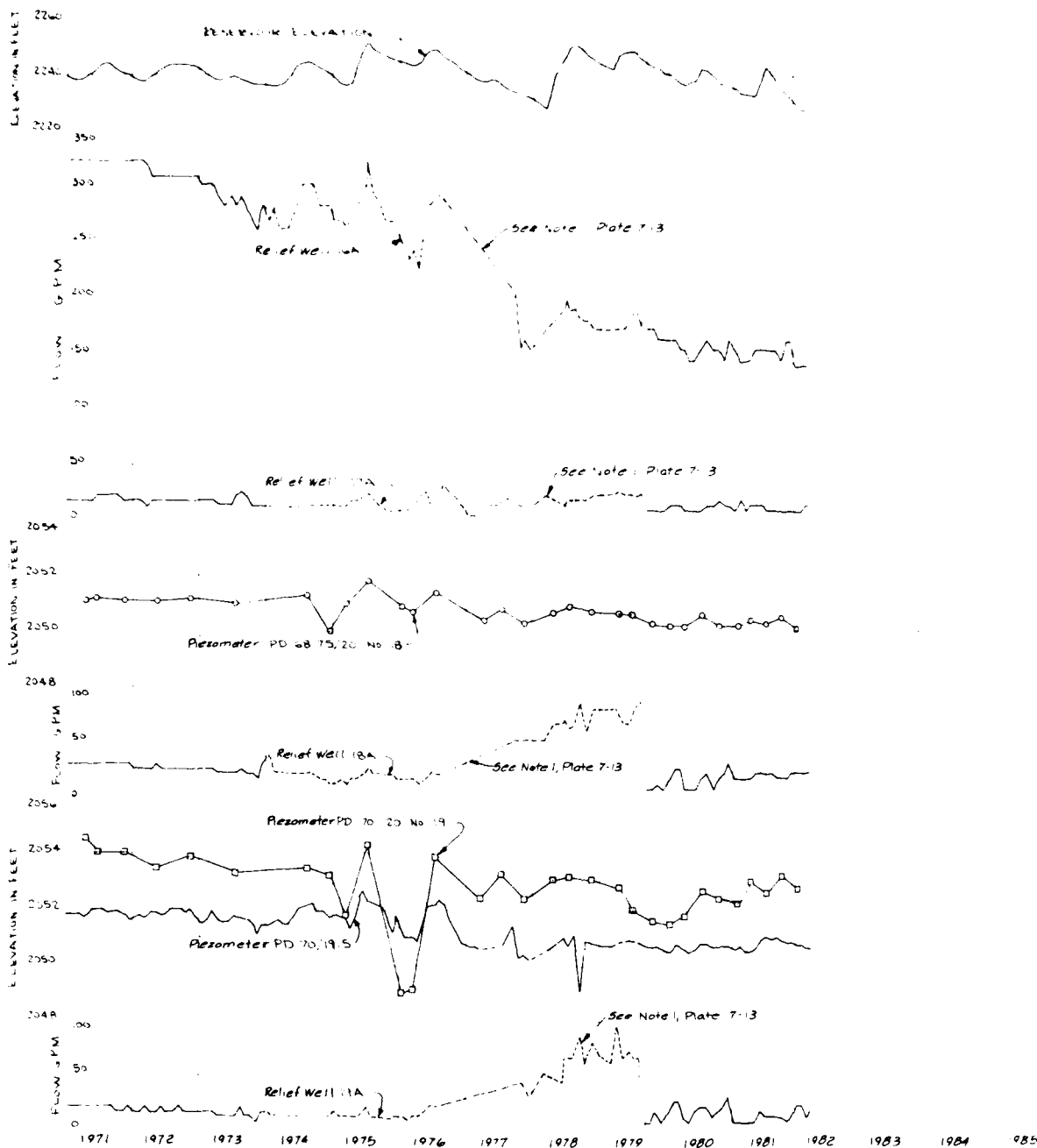
THIS DRAWING IS THE PROPERTY OF THE U.S. ARMY ENGINEER DISTRICT, OMAHA, NEBRASKA. IT IS TO BE KEPT IN THE OFFICE OF THE DISTRICT ENGINEER AND NOT BE LOANED OR REPRODUCED WITHOUT HIS PERMISSION.



THIS PLAN ACCOMPANIES CONTRACT NO.
MODIFICATION NO.

DATE		DESCRIPTION		MADE	APPROVED
REVISIONS					
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
DESIGNED BY	MISSOURI RIVER				
DRAWN BY	FORT PECK LAKE MONTANA				
CHECKED BY	SUMMARY OF HYDRAULIC DATA FOR				
SUBMITTED BY	DOWNSTREAM PRESSURE RELIEF WELL SYSTEM, 1971 - 1982				
UNIT	SECTION	(STA. 62+00 - 66+00)			
RECOMMENDED	APPROVED		DATE		
UNIT	BRANCH	DISTRICT ENGINEER'S SIGNATURE		DATE	
APPROVED	SCALE AS SHOWN		SHEET NO.		
DISTRICT ENGINEER		SHEET		DRAWING NUMBER	

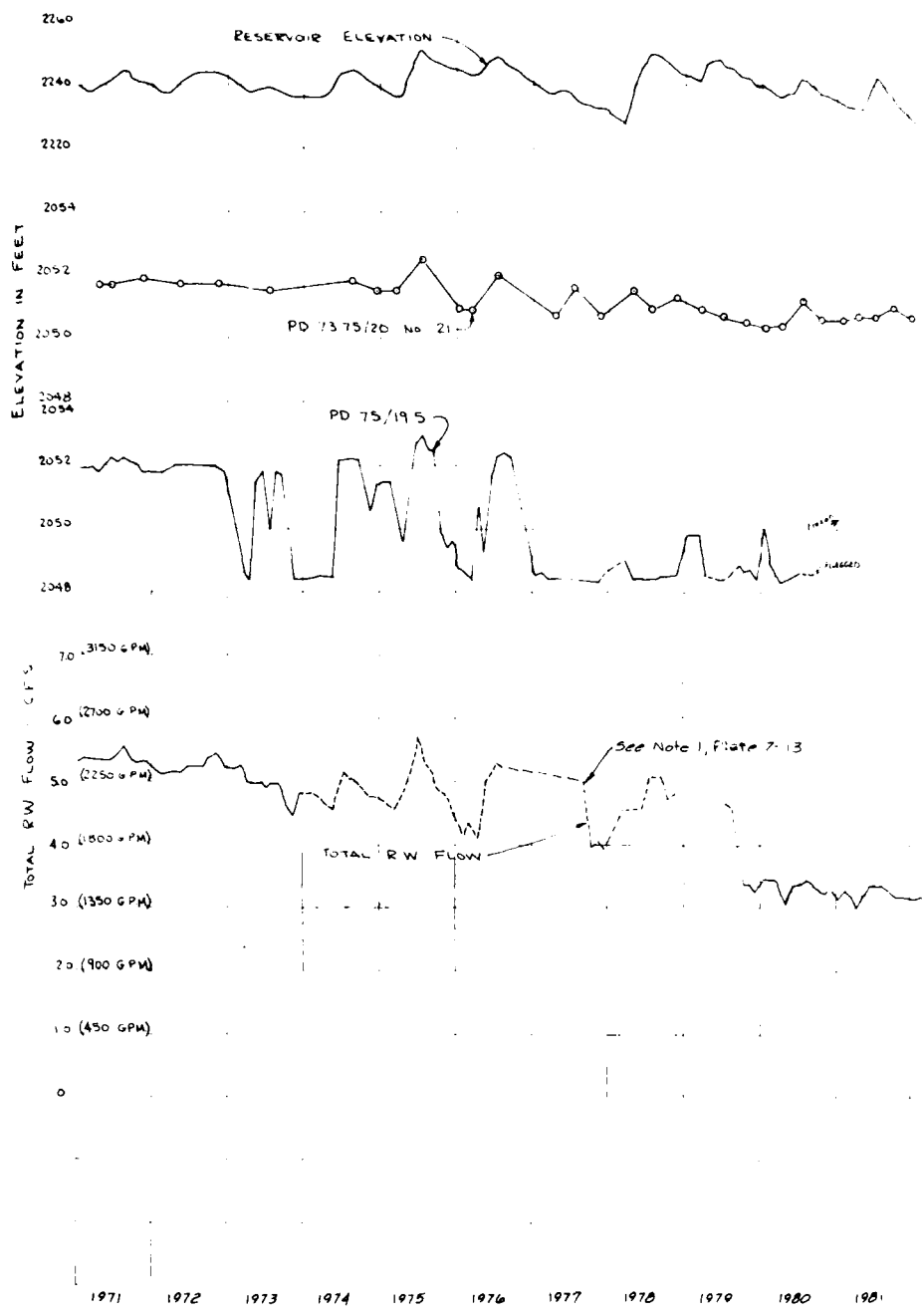
FORT PECK DAM AND RESERVOIR EMBANKMENT CRITERIA AND PERFORMANCE REPORT PLATE 7-16



* 日本銀行、東京、池田正三、副総裁
** 同上、同所、同職、同氏

THIS PLAN ACCOMPANIES CONTRACT NO.
MODIFICATION NO.





1982 1983 1984 1985

THIS DRAWING HAS BEEN REVISED TO
 REFLECT THE 100' HORIZONTAL SCALE.

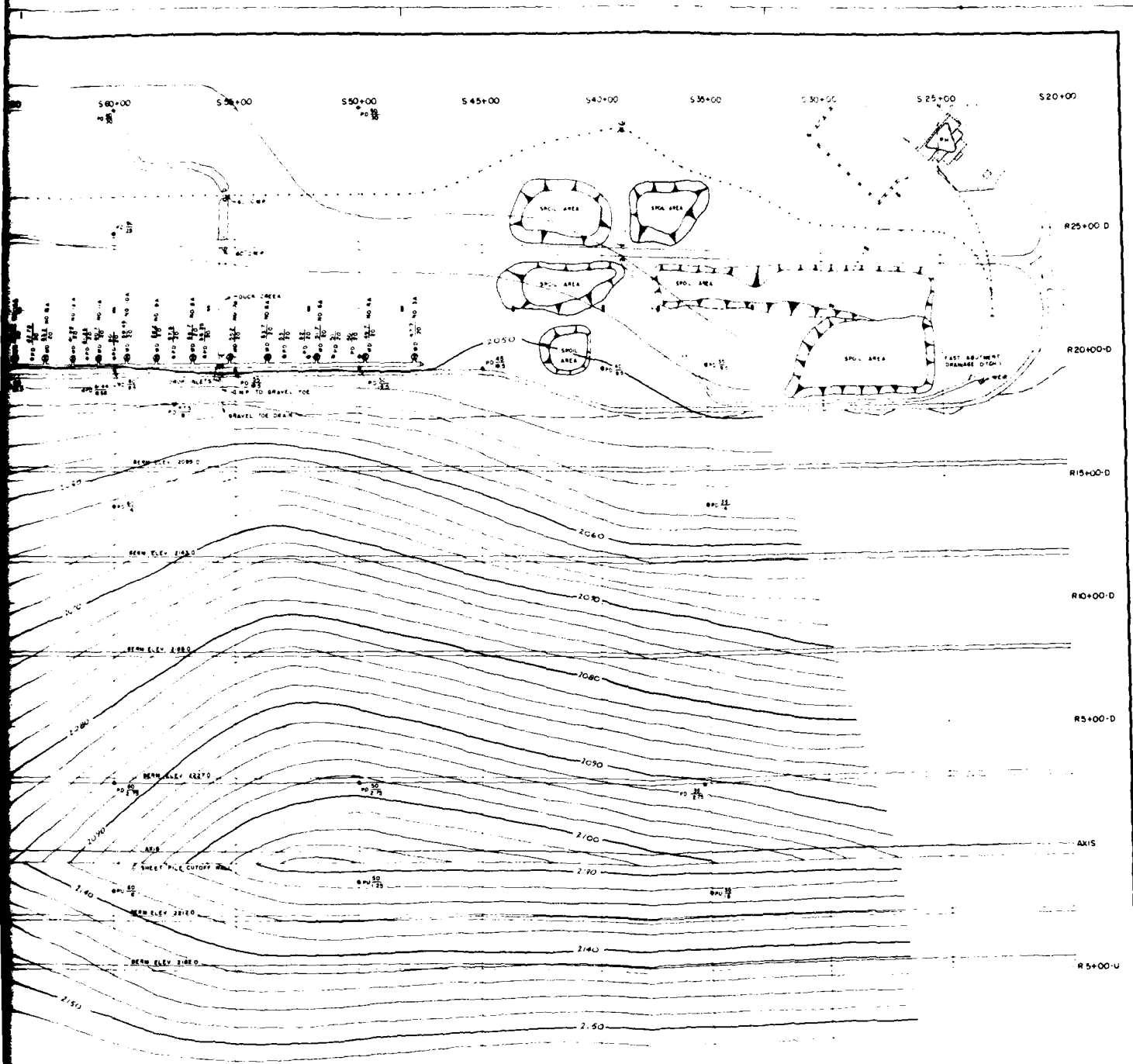


THIS PLAN ACCOMPANIES CONTRACT NO.
 MODIFICATION NO.

DATE	DESCRIPTION	MADE	APPROVED
REVISIONS			
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA			
DESIGNED BY:	MISSOURI RIVER		
DRAWN BY:	FORT PECK LAKE MONTANA		
CHECKED BY:	SUMMARY OF HYDRAULIC DATA FOR		
REVIEWED BY:	DOWNSTREAM PRESSURE RELIEF WELL SYSTEM, 1971 - 1982		
DATE	SECTION	STA. 72+00 - 74+00	
REVISIONS	APPROVED:	DATE	
APPROVED:	ENGINEER	DATE	
	ENGINEER	DATE	
	ENGINEER	DATE	

FORT PECK DAM AND RESERVOIR EMBANKMENT CRITERIA AND PERFORMANCE REPORT PLATE 7-18

2



- LEGEND
- PRESSURE MEASUREMENT POINT
 - PORE WATER PRESSURE
 - SEEPAGE RATE

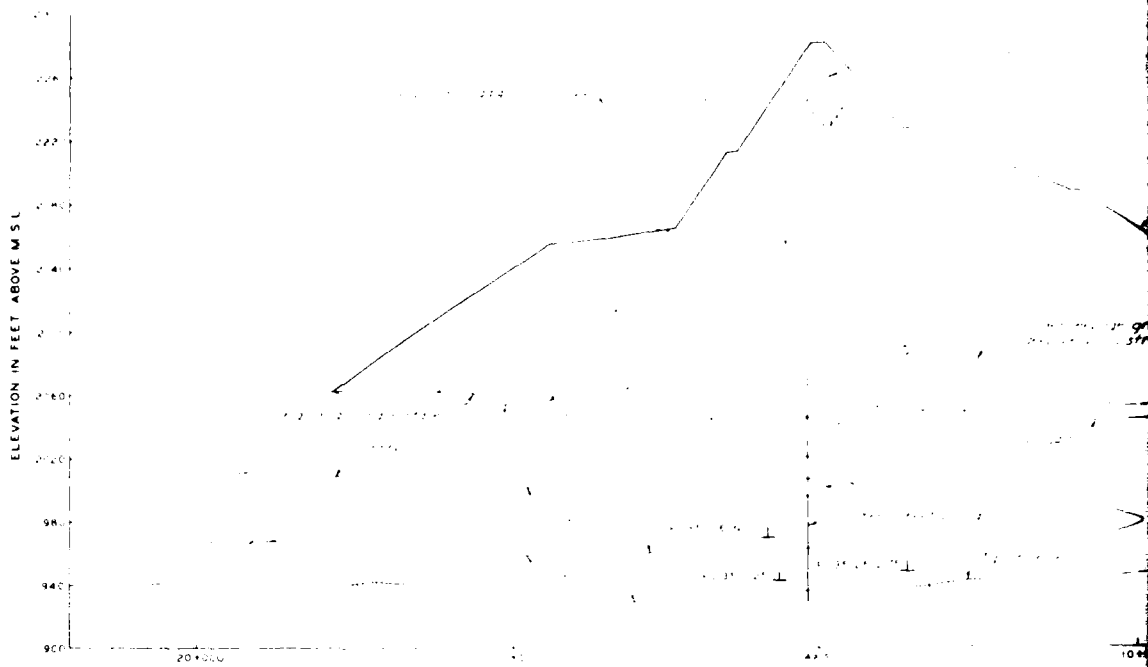
NO.	DESCRIPTION	DATE	APP'D

MISSOURI RIVER IMPROVEMENT
FORT PECK DAM
 HYDROSTATIC PRESSURE PATTERN
 IN GRAVEL STRATA BENEATH
 CLAY STRATUM
 1-22-51

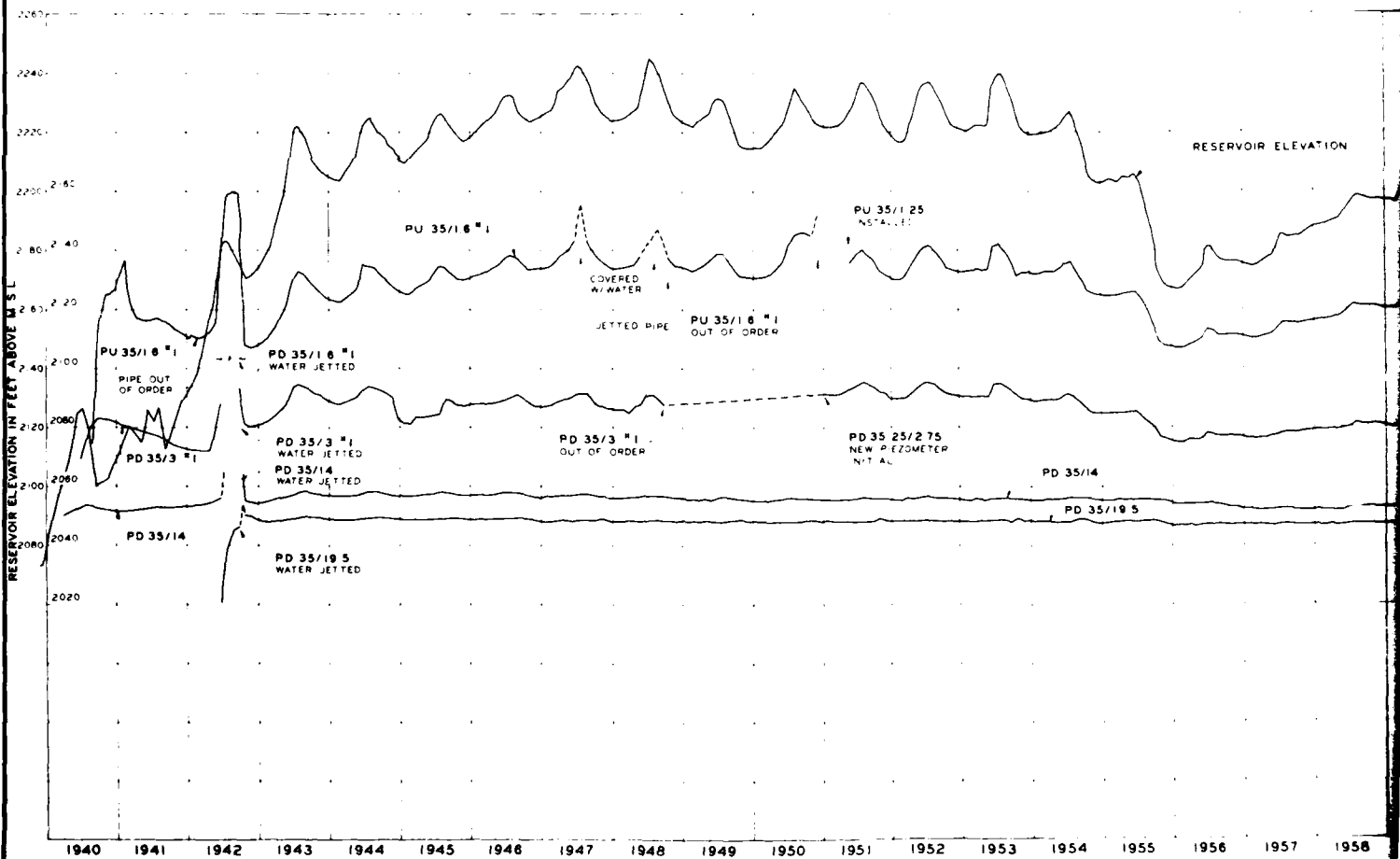
IN SHEETS
 SHEET NO.

FORT PECK DISTRICT, FORT PECK, MONTANA
 SUBMITTED APPROVAL RECOMMENDED APPROVED

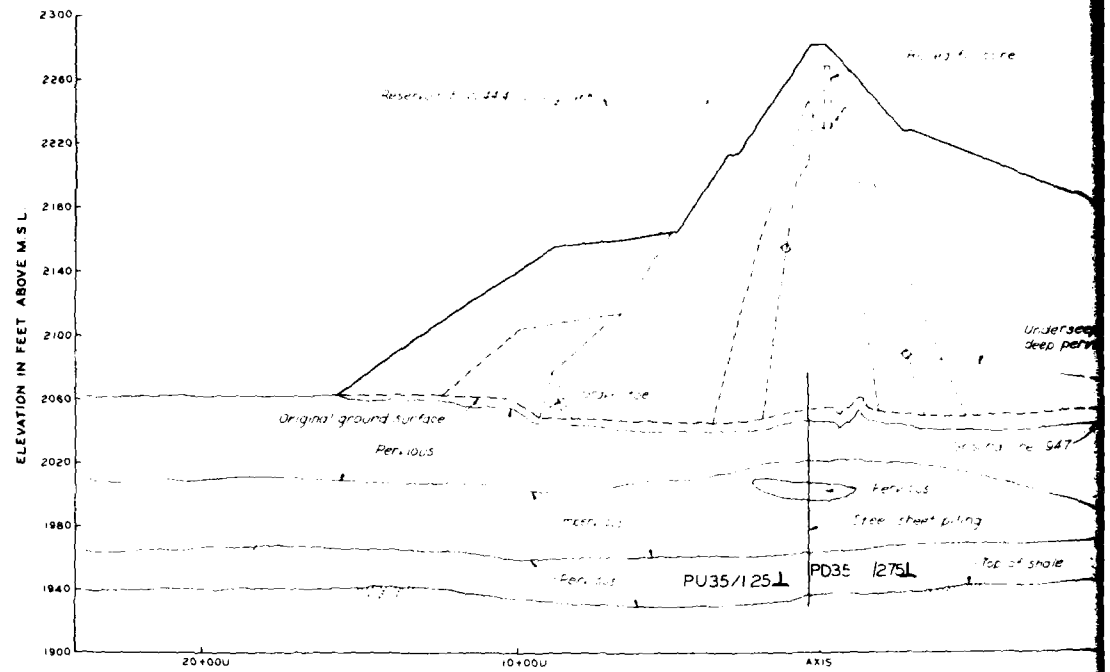
HEAD DESIGN BRANCH CHIEF ENGINEERING DIVISION COL. CHIEF OF ENGINEERING
 DRAWN BY J.E.H. TRANSMITTED BY LETTER FILE NO.
 CHECKED BY J.E.H. DATES 6296.97-1-55



SECTION STA 35+00
 SCALE VERT. INCHES = 4" FEET
 HORIZ. INCHES = 200 FEET

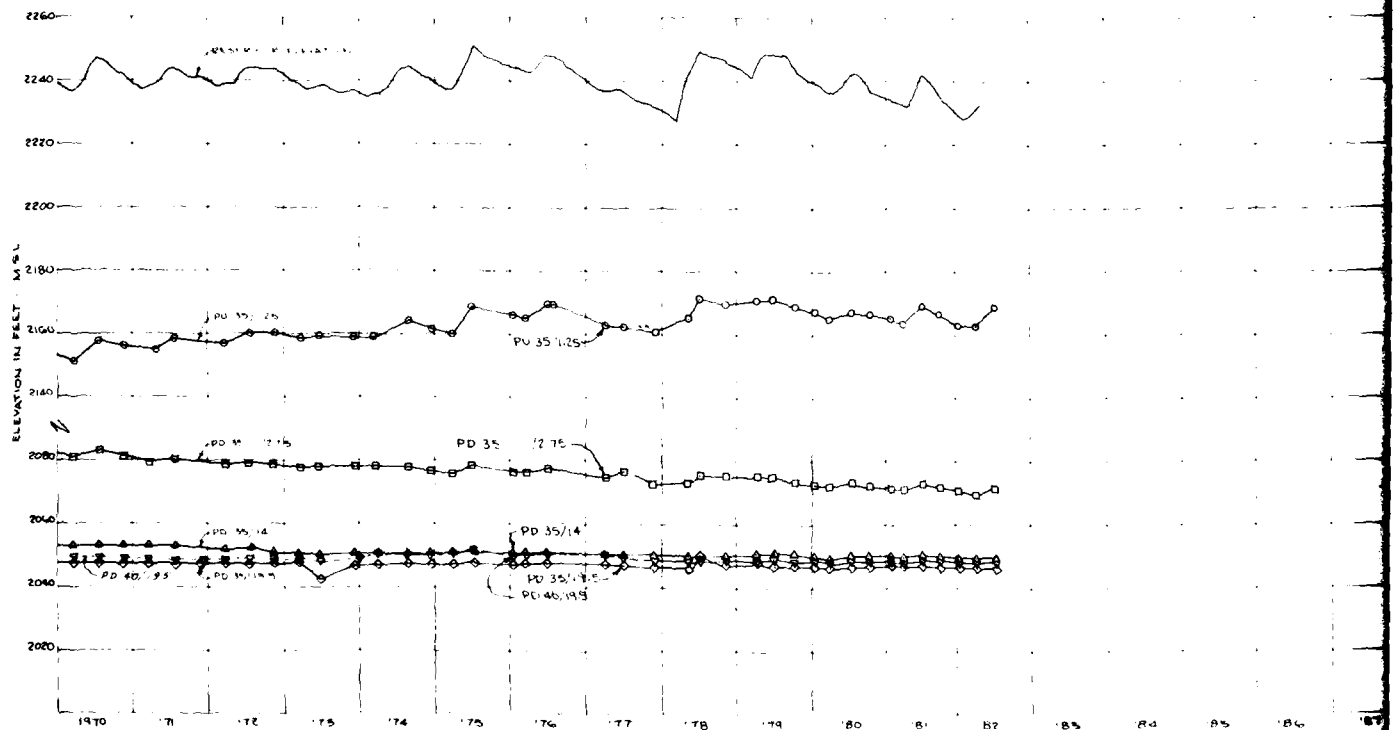


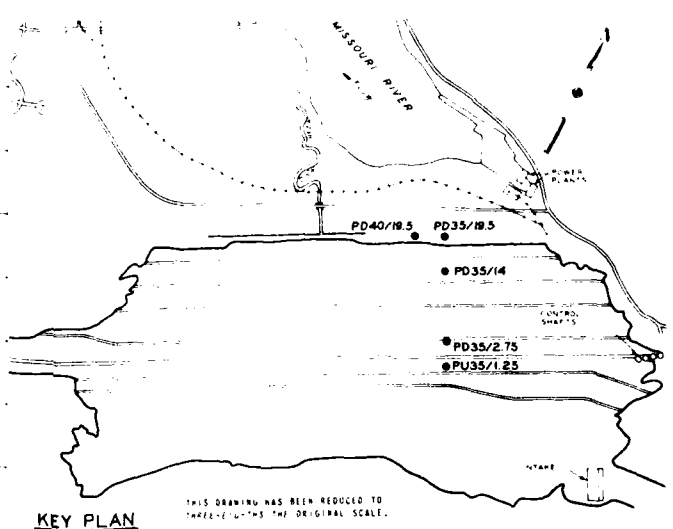
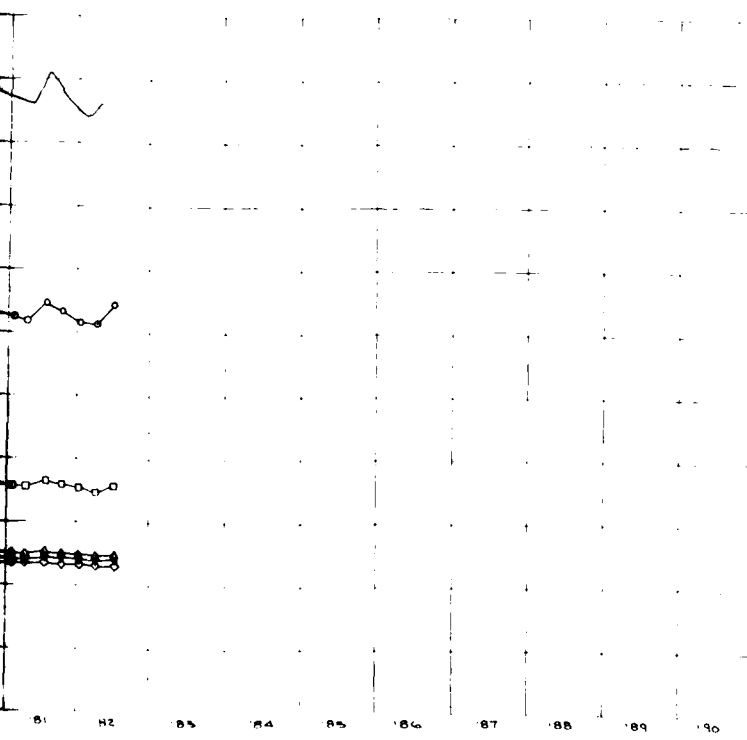
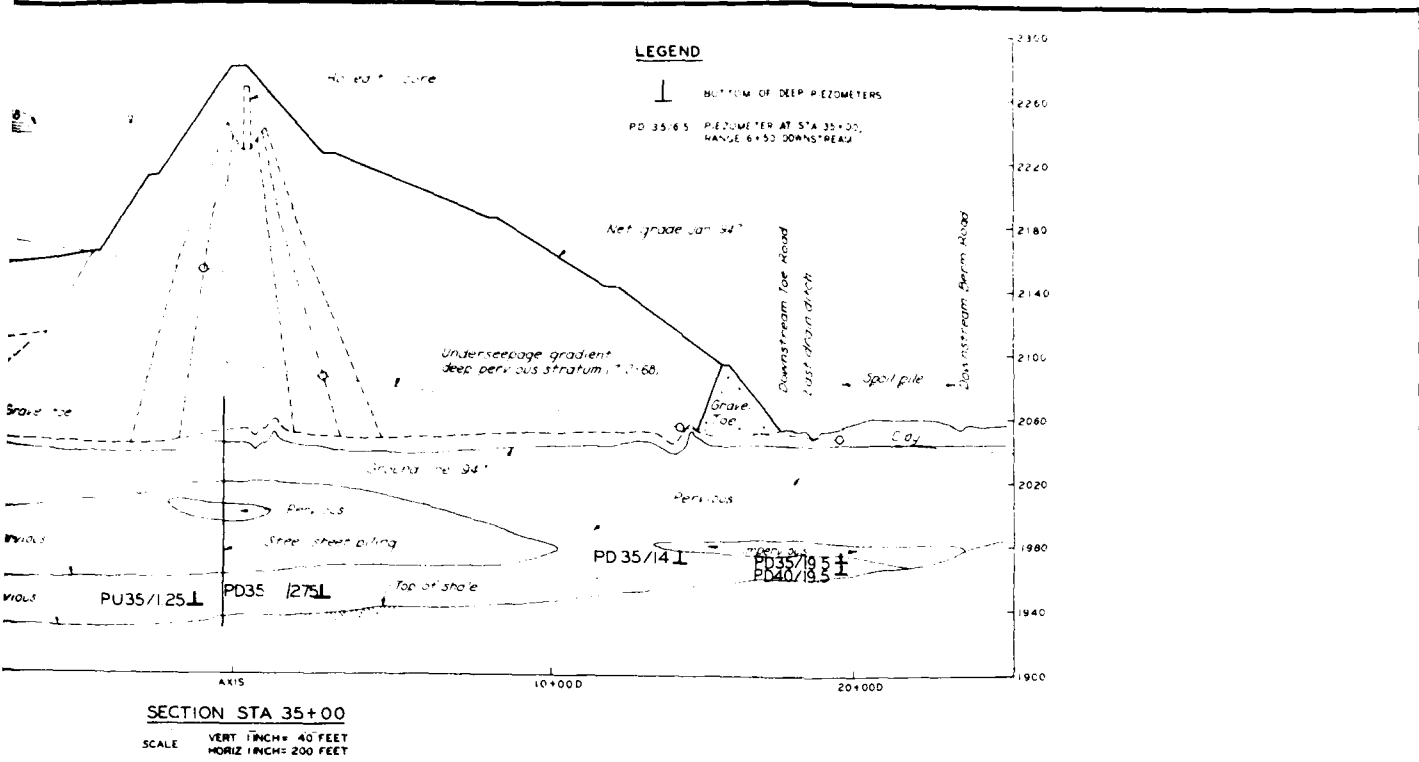
FORT PECK DAM AND RESER



SECTION STA 35+00

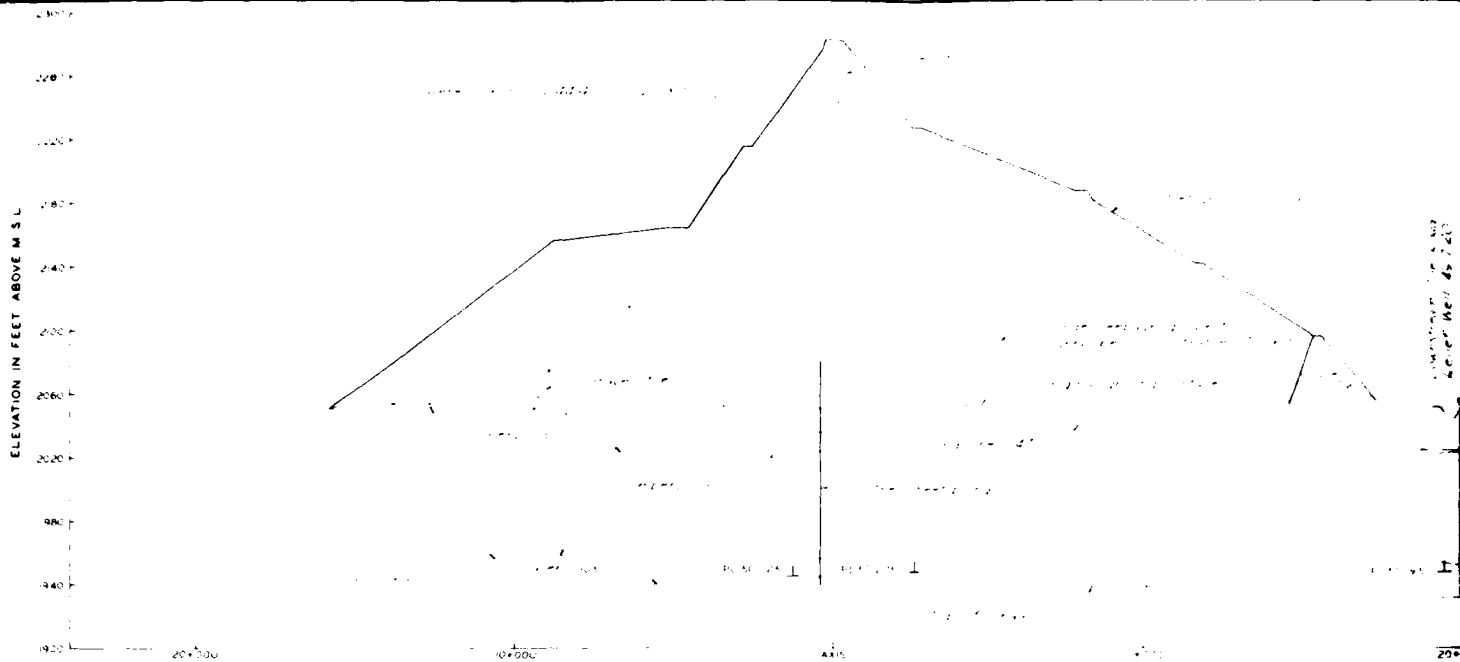
SCALE VERT. 1 INCH = 40 FEET
HORIZ. 1 INCH = 200 FEET



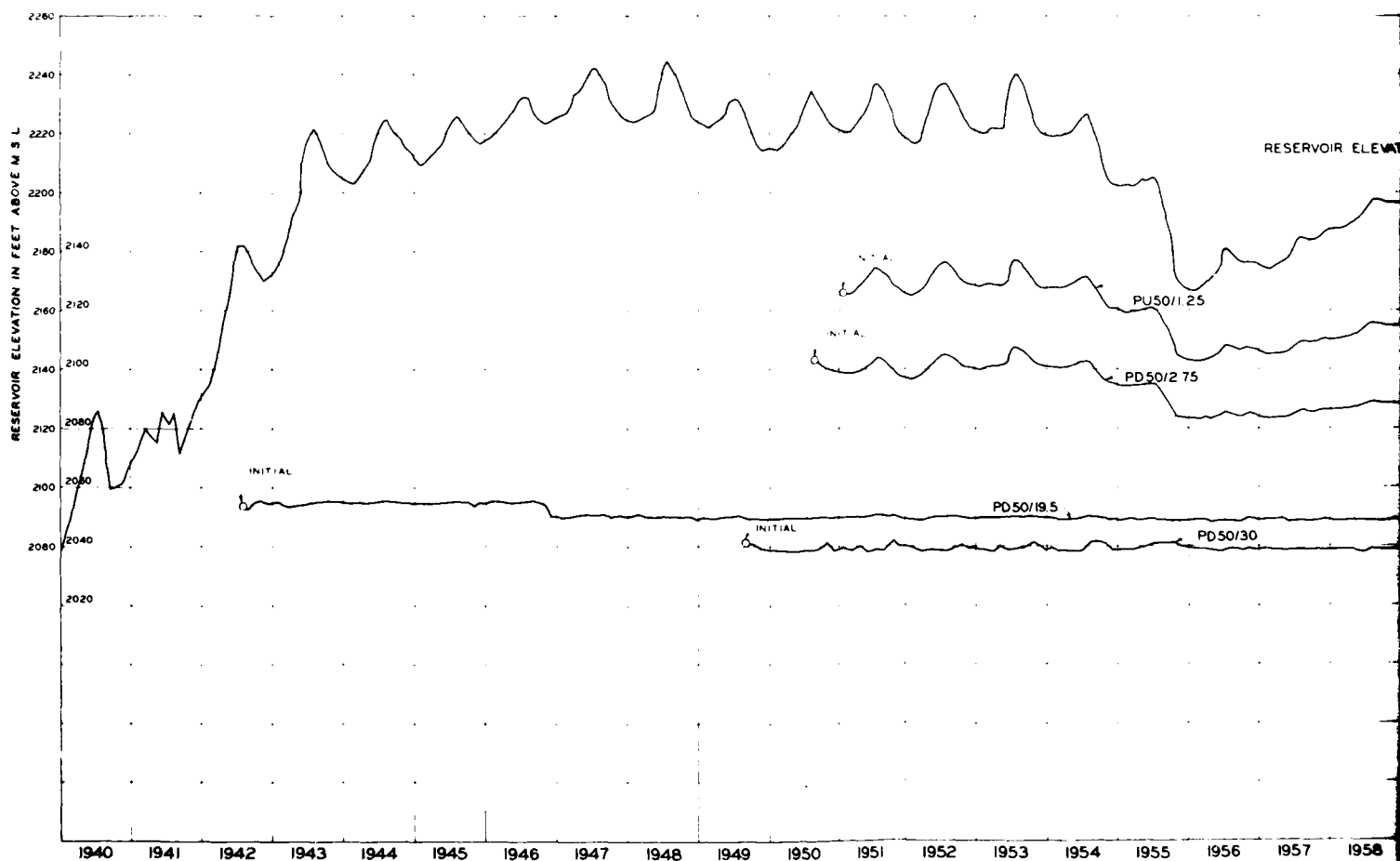


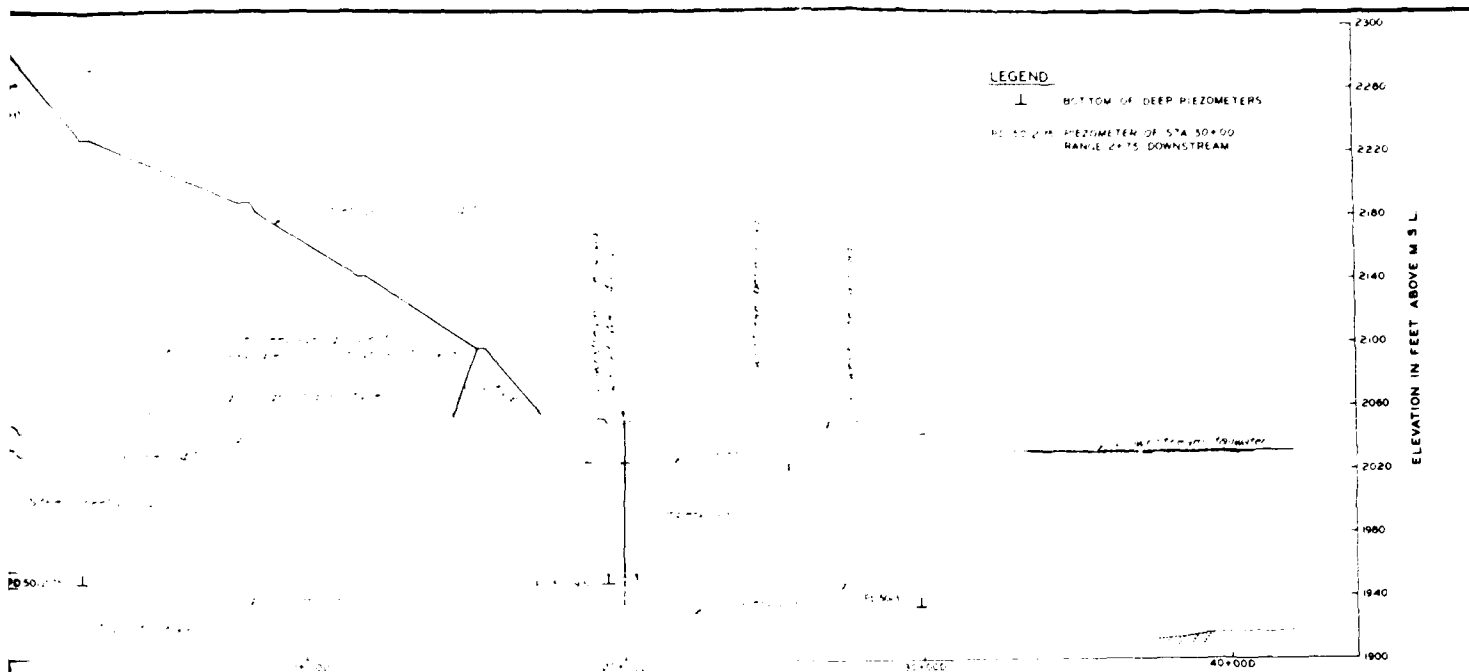
THIS PLAN ACCOMPANIES CONTRACT NO. _____
MODIFICATION NO. _____

DATE		REVISIONS		MADE	APPROVED
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
MISSOURI RIVER FORT PECK LAKE, MONTANA					
STATION 35+00 HYDROSTATIC PRESSURE BENEATH CLAY STRATUM					
DESIGNED BY:	CHECKED BY:	APPROVED BY:	DATE:		
DRAWN BY:	REVIEWED BY:	APPROVED BY:	DATE:		
SCALE AS SHOWN	SCALE AS SHOWN	SCALE AS SHOWN	SCALE AS SHOWN		
SHEET NO. _____					



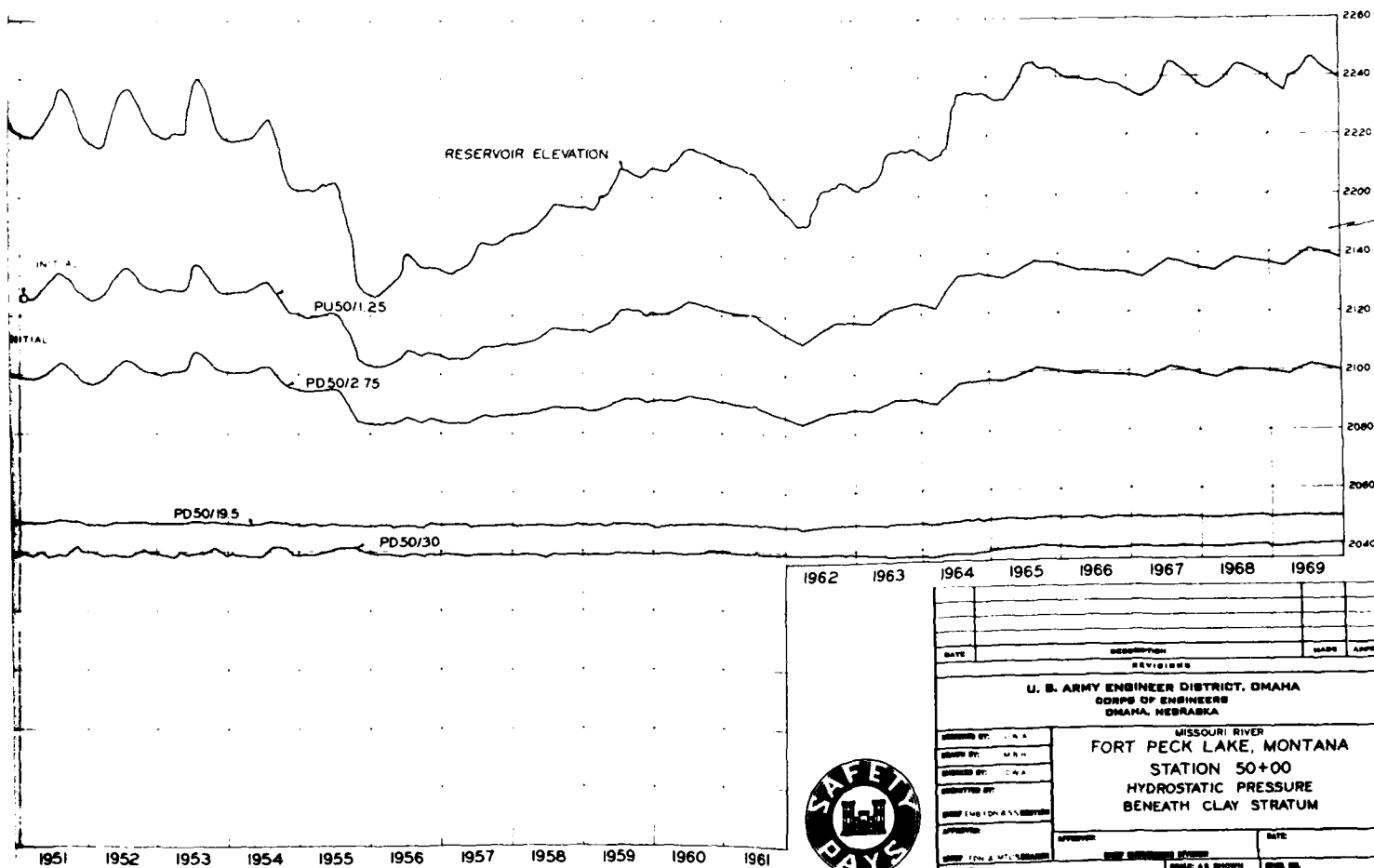
SECTION STA 50+00
SCALE VERT. 1 INCH = 4 FEET
HORIZ. 1 INCH = 200 FEET





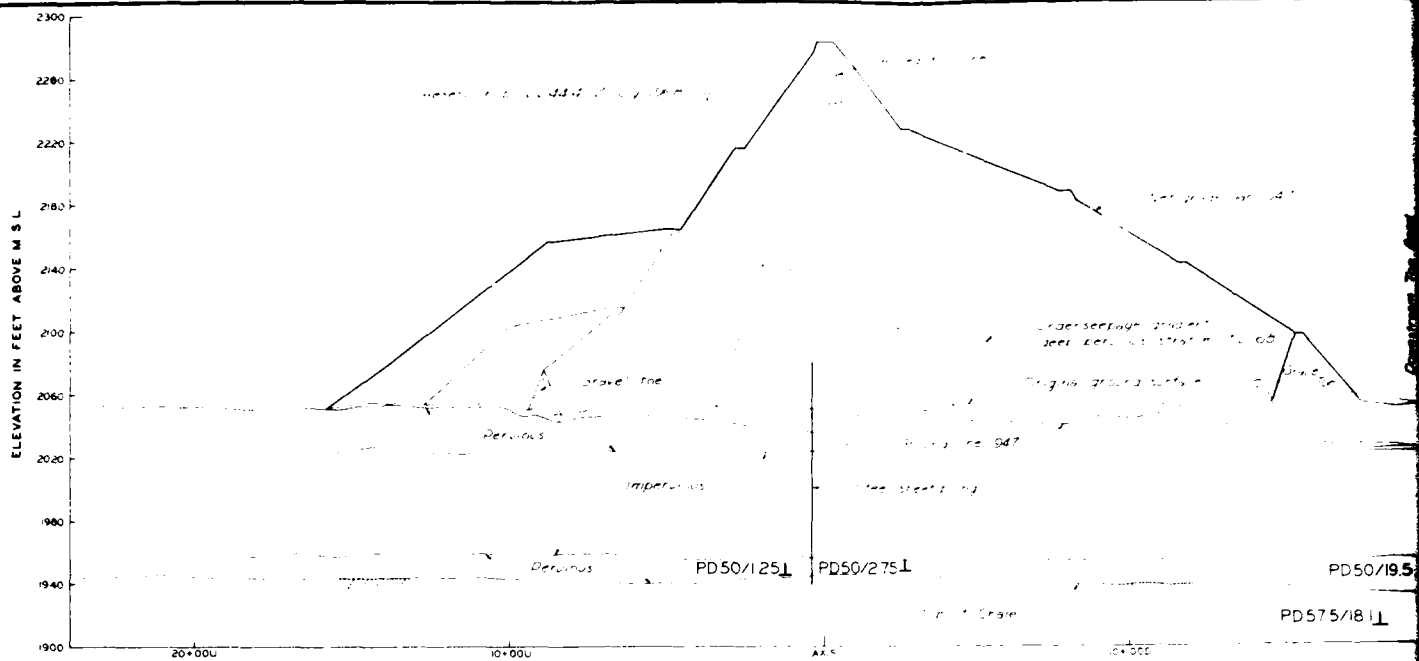
SECTION STA 50+00

VERT. INCHES = 40 FEET
SCALE
HORIZ. INCHES = 50 FEET

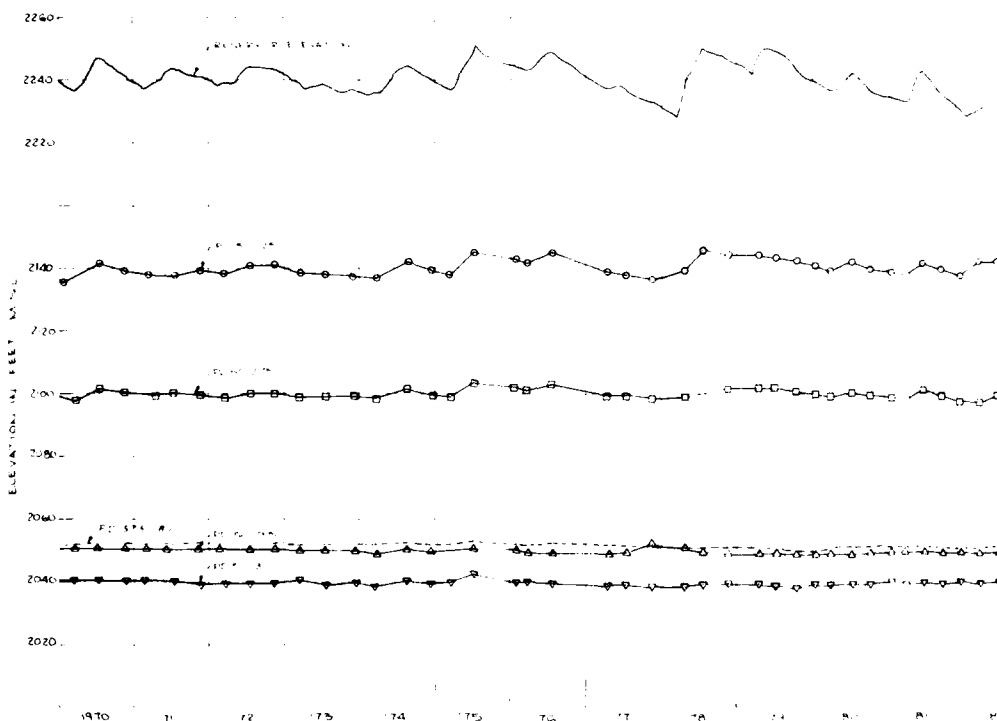


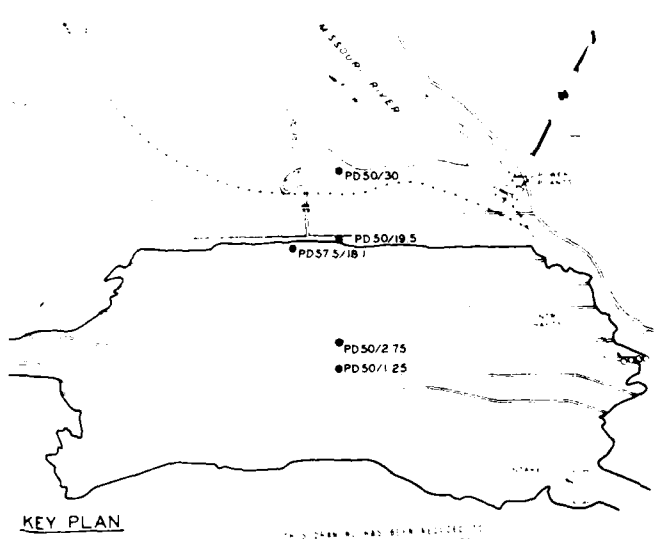
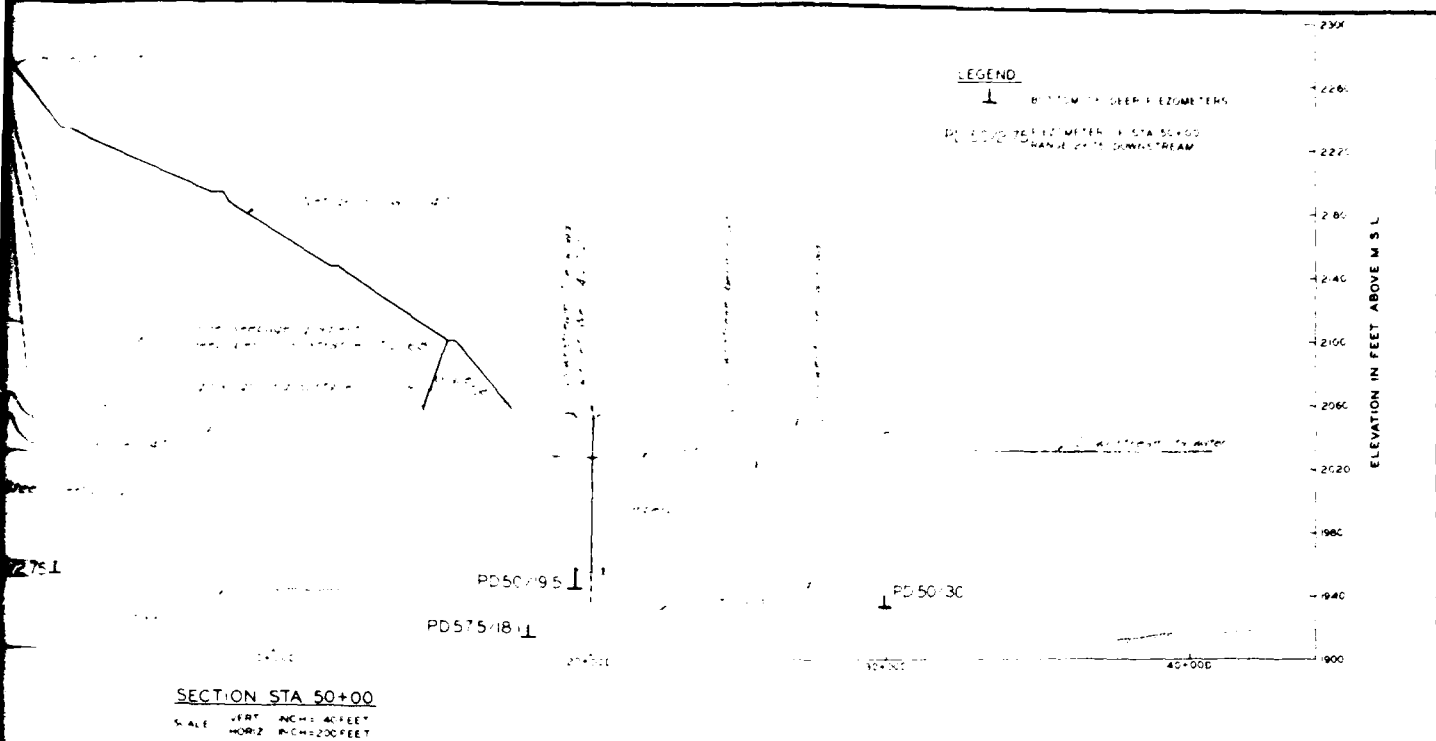
1962	1963	1964	1965	1966	1967	1968	1969																
<table border="1"> <tr> <td>DATE</td> <td>DESCRIPTION</td> <td>DATE</td> <td>APPROVED</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>								DATE	DESCRIPTION	DATE	APPROVED												
DATE	DESCRIPTION	DATE	APPROVED																				
<p align="center">U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA</p>																							
<p>DESIGNED BY: C. A. H.</p> <p>DRAWN BY: M. H. H.</p> <p>CHECKED BY: C. A. H.</p> <p>APPROVED BY: C. A. H.</p>				<p align="center">MISSOURI RIVER FORT PECK LAKE, MONTANA STATION 50+00 HYDROSTATIC PRESSURE BENEATH CLAY STRATUM</p>																			
<p>APPROVED: [Signature]</p>				<p>DATE: []</p>																			
<p>SCALE AS SHOWN</p>				<p>DATE: []</p>																			





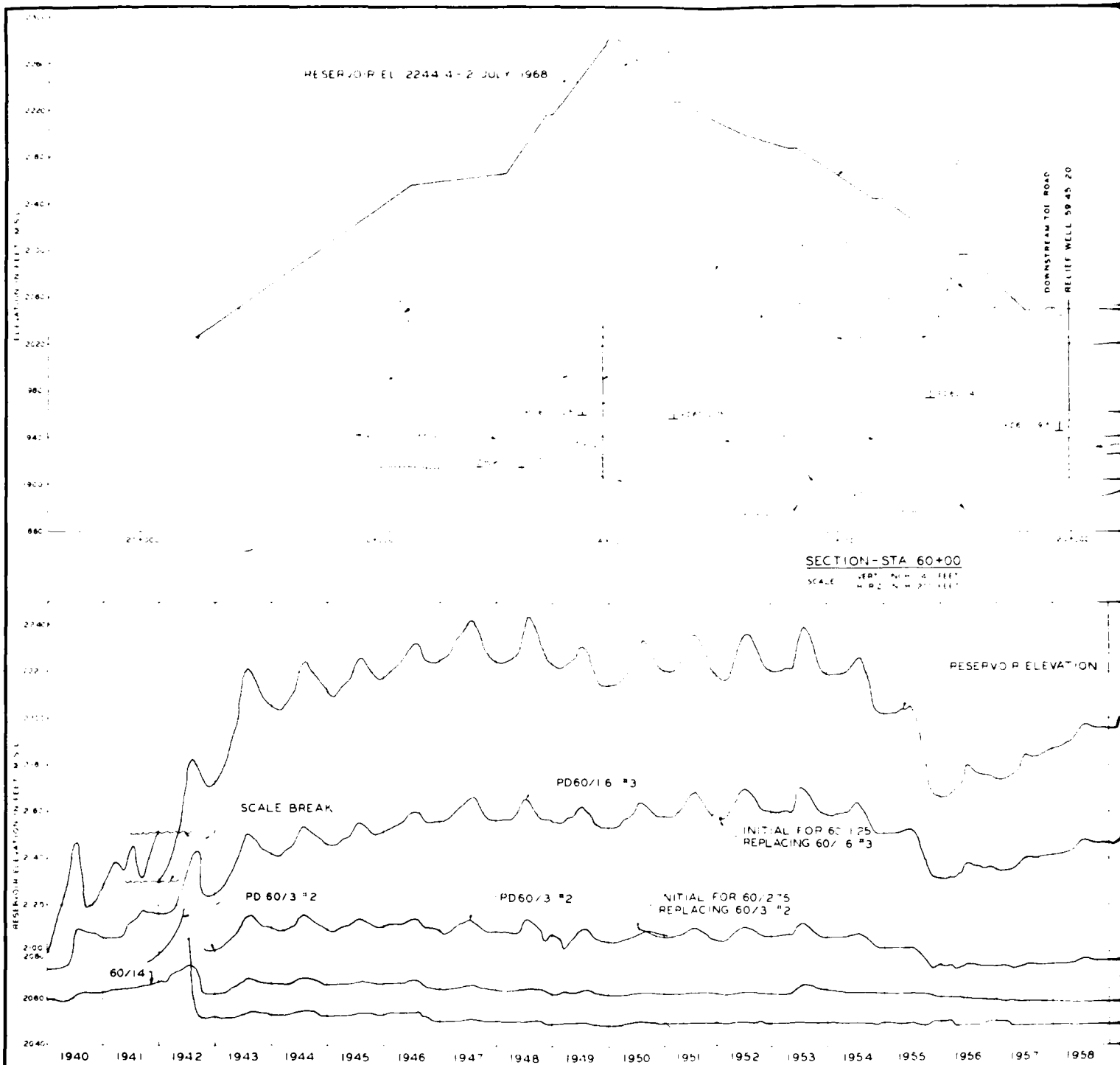
SECTION STA 50+00
SCALE VERT. INCHES 40 FEET
HORIZ. INCHES 200 FEET

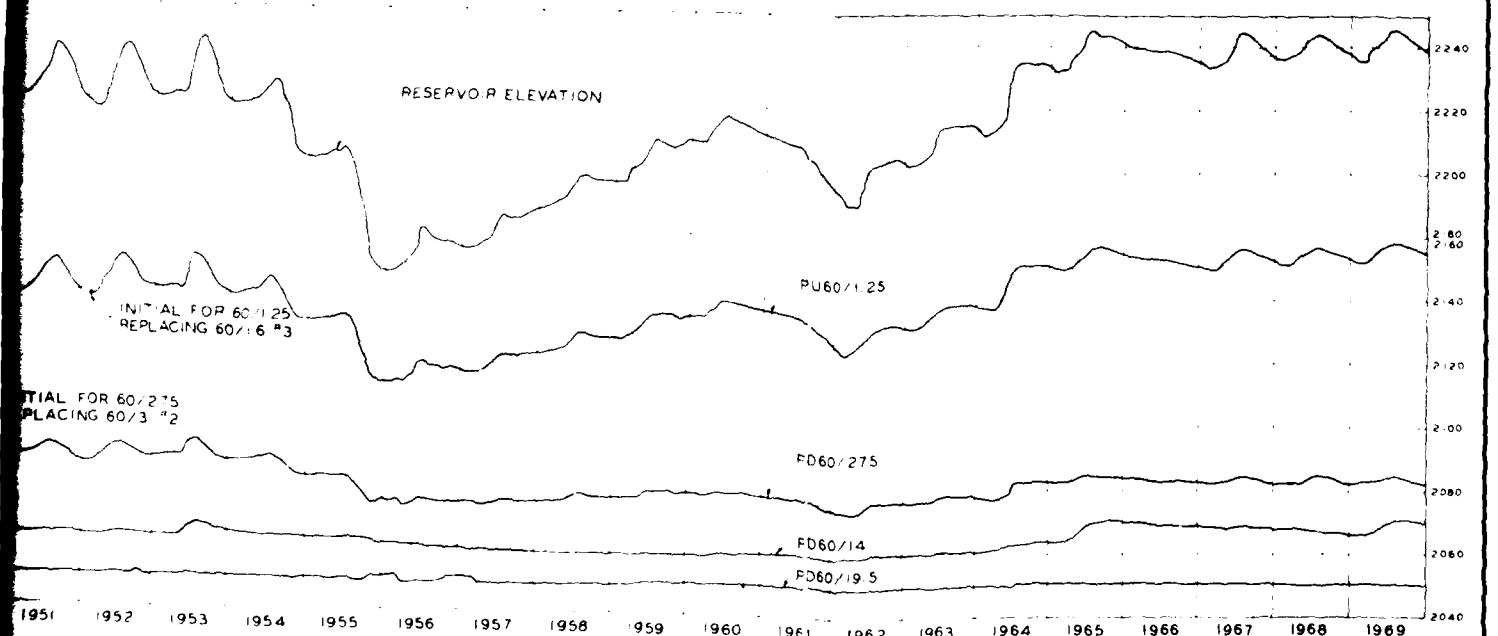
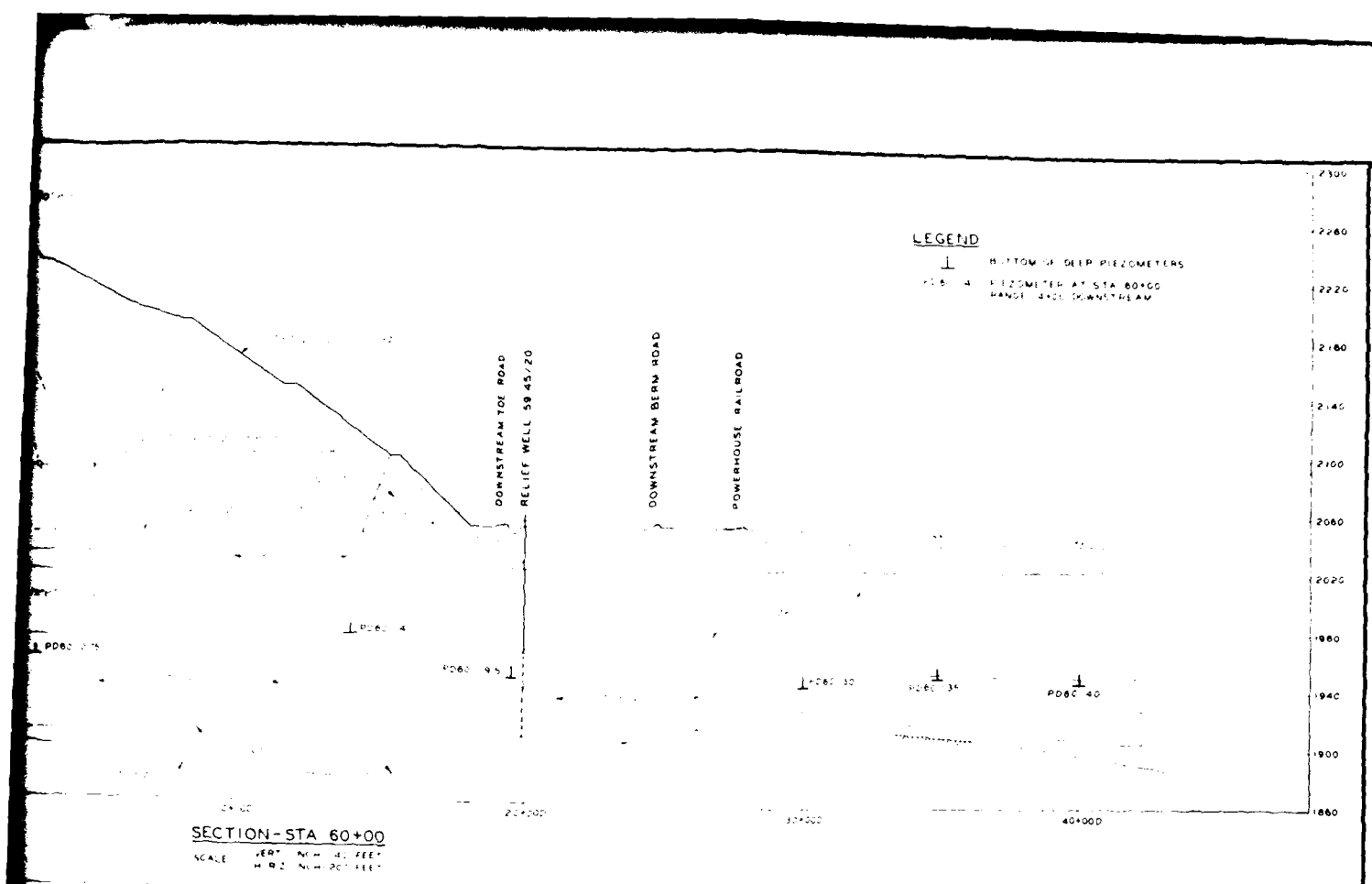




REVISIONS		DATE	DESCRIPTION	MADE	APPROVED
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
MISSOURI RIVER FORT PECK LAKE, MONTANA STATION 50+00 HYDROSTATIC PRESSURE BENEATH CLAY STRATUM					
DESIGNED BY	DRIVEN BY	CHECKED BY	APPROVED BY	DATE	
DRY	DRY	DRY	DRY	DRY	DRY
THIS PLAN ACCOMPANIES CONTRACT NO. MODIFICATION NO.			COL. E. E. JEFFERY, ENGINEER		







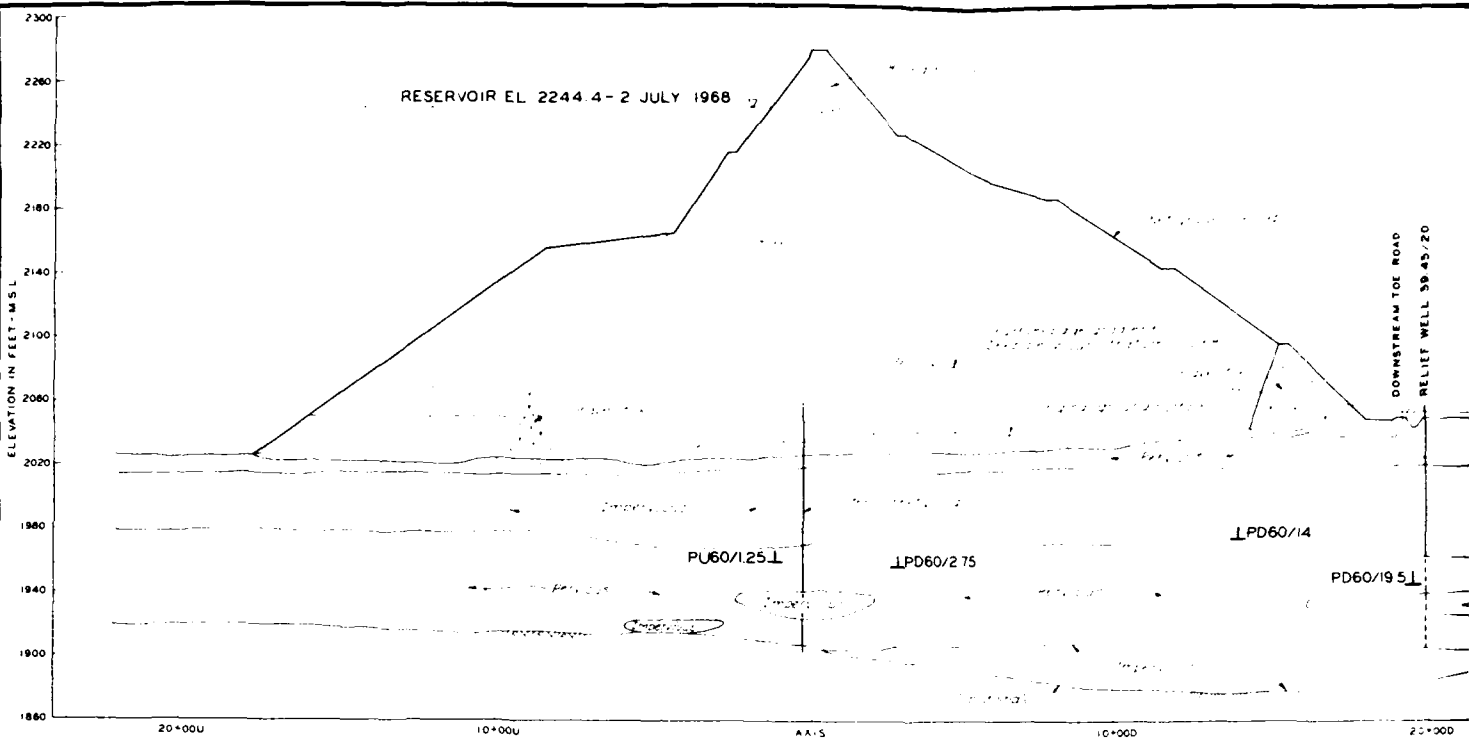
DATE	DESCRIPTION	MADE	APPROVED
<p align="center">U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA</p>			
<p>REQUESTED BY: MISSOURI RIVER DRAWN BY: FORT PECK LAKE, MONTANA</p>		<p>STATION 60+00 HYDROSTATIC PRESSURE BENEATH CLAY STRATUM</p>	
<p>CHECKED BY:</p>	<p>APPROVED:</p>	<p>DATE:</p>	<p>SCALE AS SHOWN</p>
<p>APPROVED:</p>	<p>DATE:</p>	<p>SCALE AS SHOWN</p>	<p>DATE:</p>

2

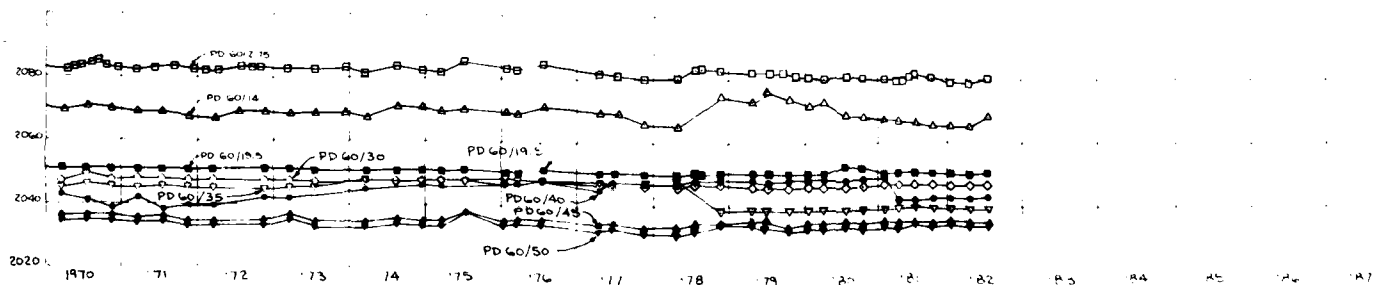
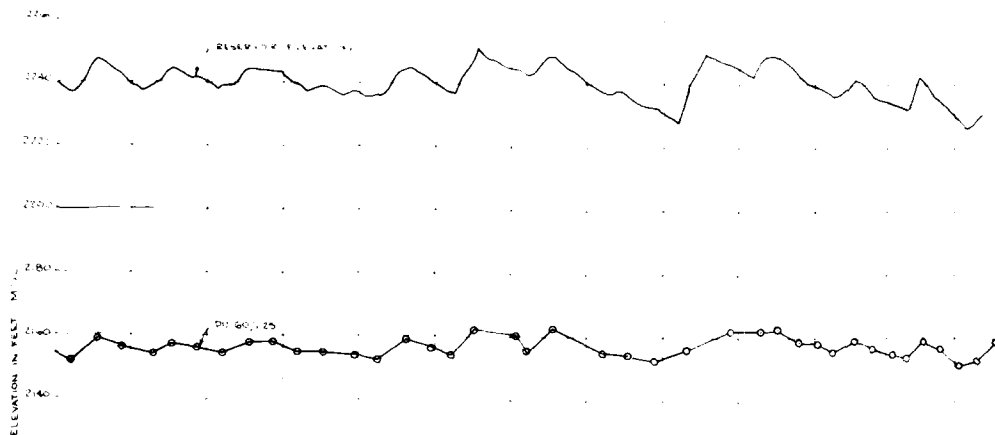
SAFETY

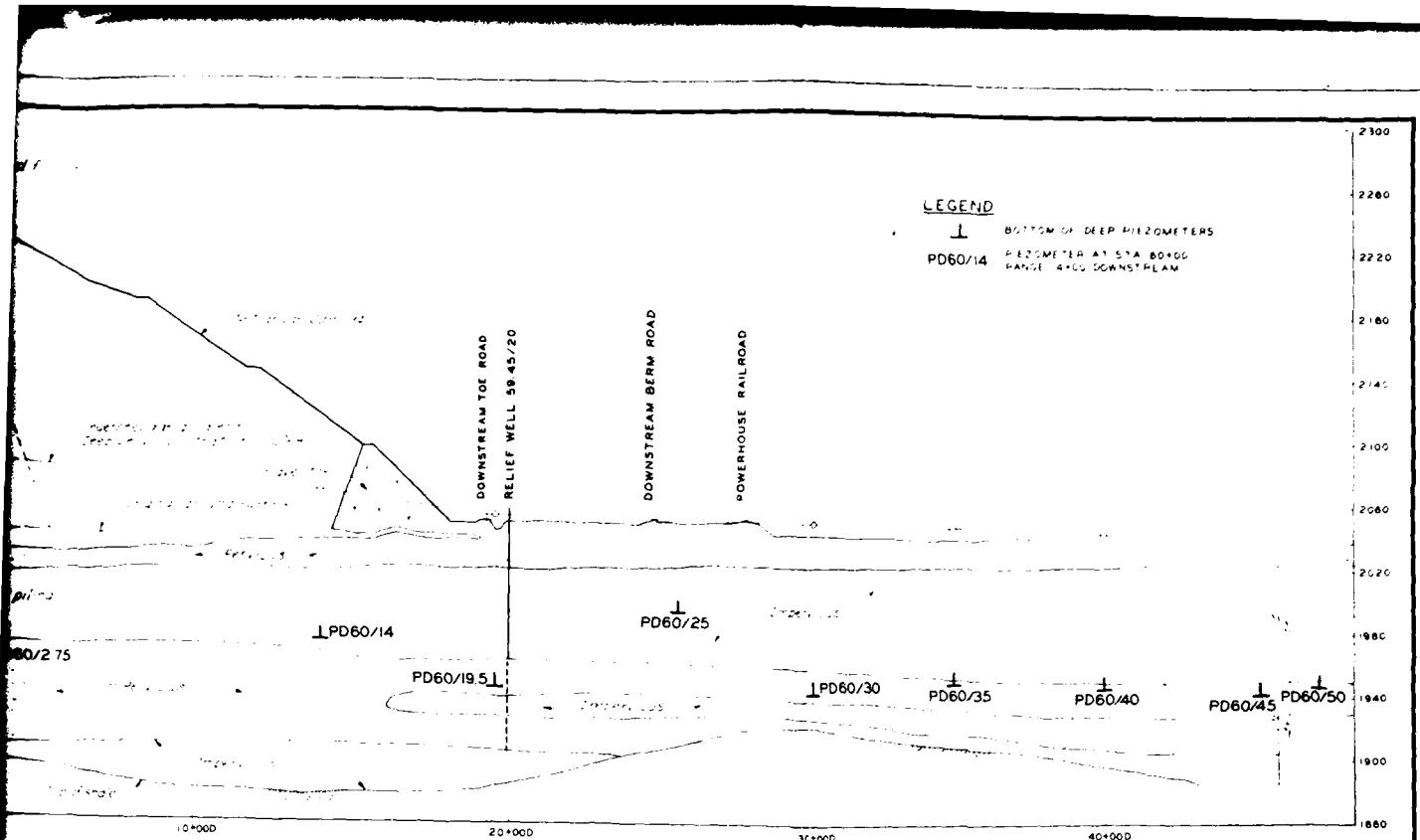
THIS PLAN ACCOMPANIES CONTRACT NO. _____
MODIFICATION NO. _____

FORT PECK DAM AND RESERVOIR EMBANKMENT CRITERIA AND PERFORMANCE REPORT PLATE 7-24

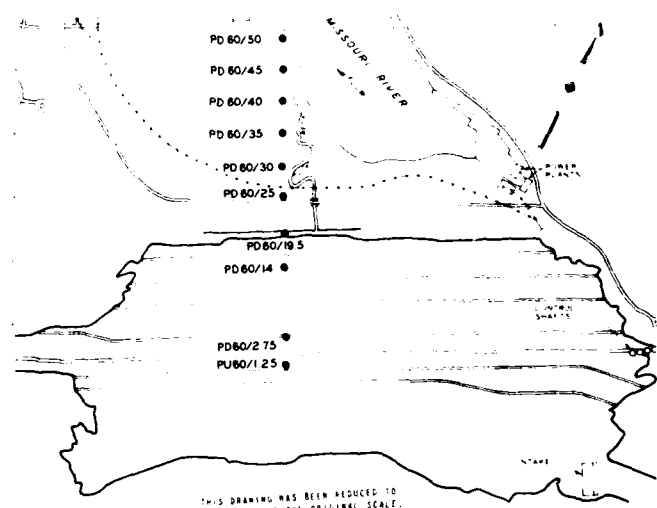


SECTION - STA 60+00
 SCALE VERT 1 INCH = 40 FEET
 HORIZ 1 INCH = 200 FEET





SECTION-STA 60+00
 SCALE VERT. 1 INCH=40 FEET
 HORIZ. 1 INCH=200 FEET

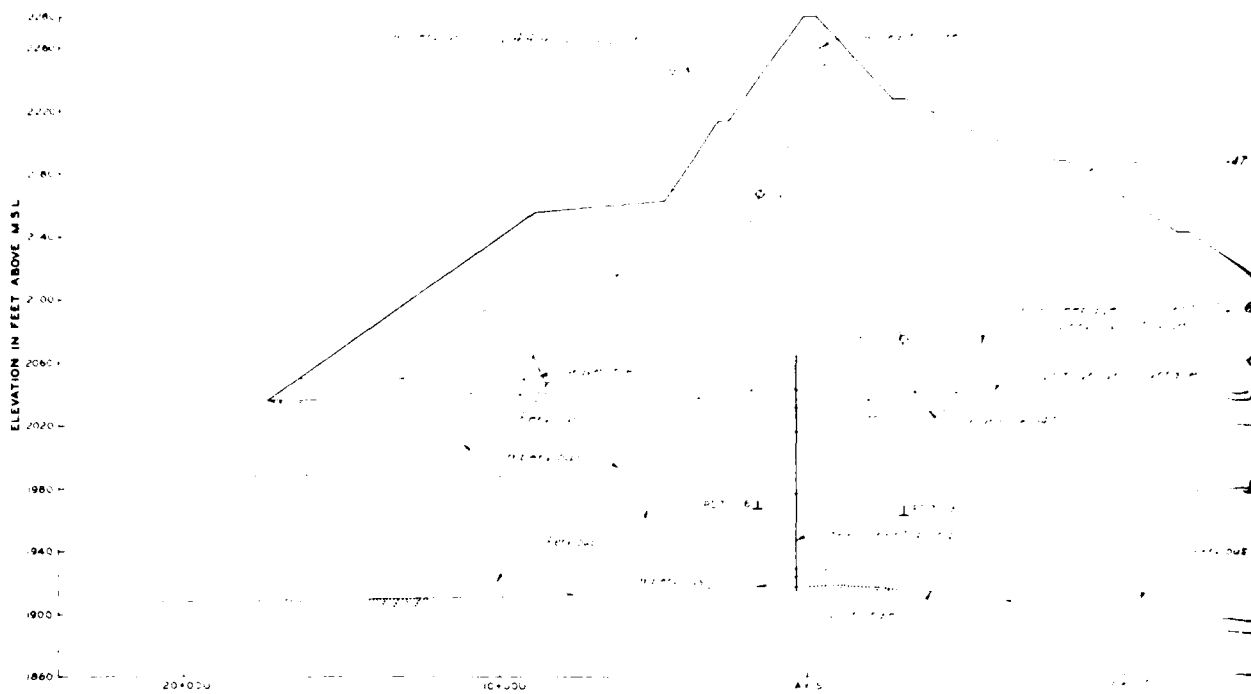


KEY PLAN

THIS DRAWING HAS BEEN REDUCED TO
 THREE-EIGHTHS THE ORIGINAL SCALE.

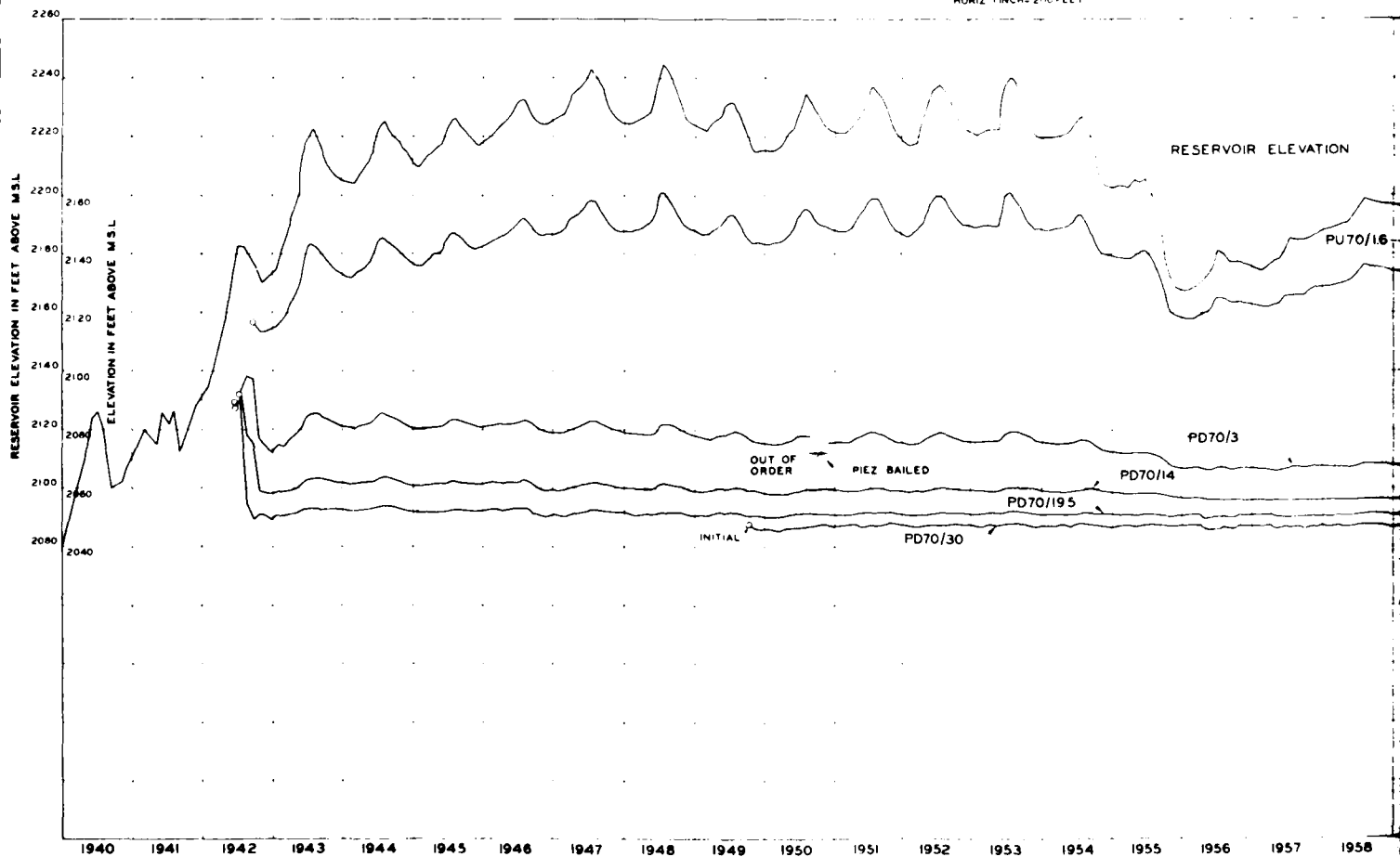
REVISIONS		DATE	DESCRIPTION	MADE	APPRO
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
MISSOURI RIVER FORT PECK LAKE, MONTANA					
STATION 60+00 HYDROSTATIC PRESSURE BENEATH CLAY STRATUM					
DESIGNED BY:	CHECKED BY:	APPROVED BY:	DATE:		
DRAWN BY:	REVIEWED BY:	APPROVED BY:	DATE:		
THIS PLAN ACCOMPANIES CONTRACT NO. _____ MODIFICATION NO. _____			U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA		





SECTION STA 70+00

SCALE VERT 1 INCH = 40 FEET
HORIZ 1 INCH = 200 FEET



LEGEND



1. PNEUMATICALLY APPLIED
2. PNEUMATICALLY APPLIED
3. PNEUMATICALLY APPLIED

SECTION STA 70+00

SCALE VERT. 1 INCH = 40 FEET
HORIZ. 1 INCH = 200 FEET

RESERVOIR ELEVATION

PU70/16

PD70/3

PIEZ. BAILED

PD70/195

PD70/14

PD70/30

1962

1963

1964

1965

1966

1967

1968

1969

DATE

DESCRIPTION

MADE

APPROVED

U. S. ARMY ENGINEER DISTRICT, OMAHA
CORPS OF ENGINEERS
OMAHA, NEBRASKA

DESIGNED BY: A.A.
CHECKED BY: H.H.
DRAWN BY: A.A.
REVIEWED BY: A.A.
APPROVED: A.A.
DATE: A.A.

MISSOURI RIVER
FORT PECK LAKE, MONTANA
STATION 70+00
HYDROSTATIC PRESSURE
BENEATH CLAY STRATUM



THIS PLAN ACCOMPANIES CONTRACT NO. _____
MODIFICATION NO. _____

DR. S. C. BENTLEY ENGINEER

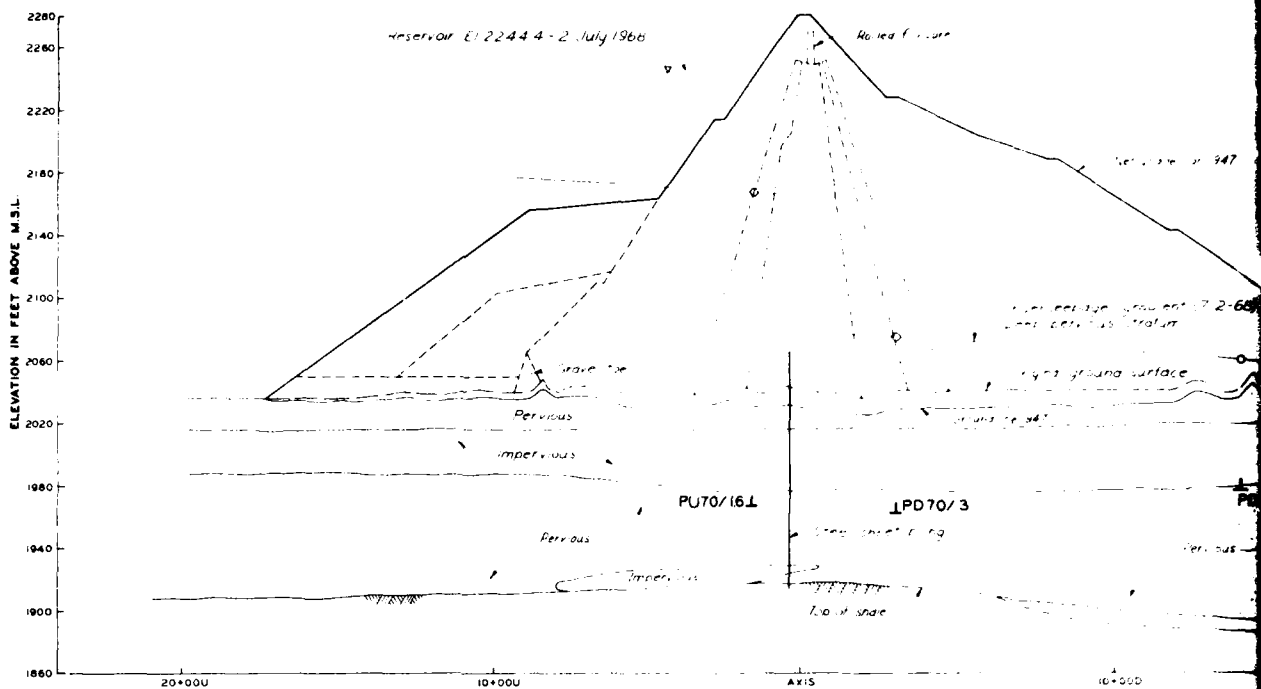
DATE AS SHOWN

DATE

FORT PECK DAM AND RESERVOIR

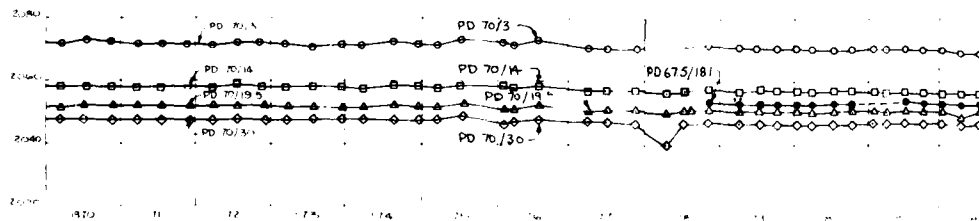
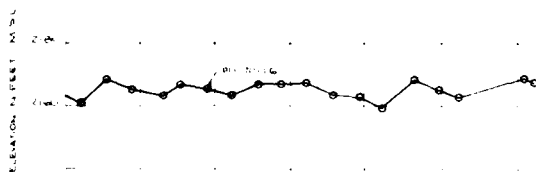
EMBANKMENT CRITERIA AND PERFORMANCE REPORT

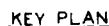
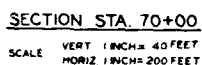
PLATE 7-26



SECTION STA. 70+00

SCALE VERT 1 INCH = 40 FEET
HORIZ 1 INCH = 200 FEET





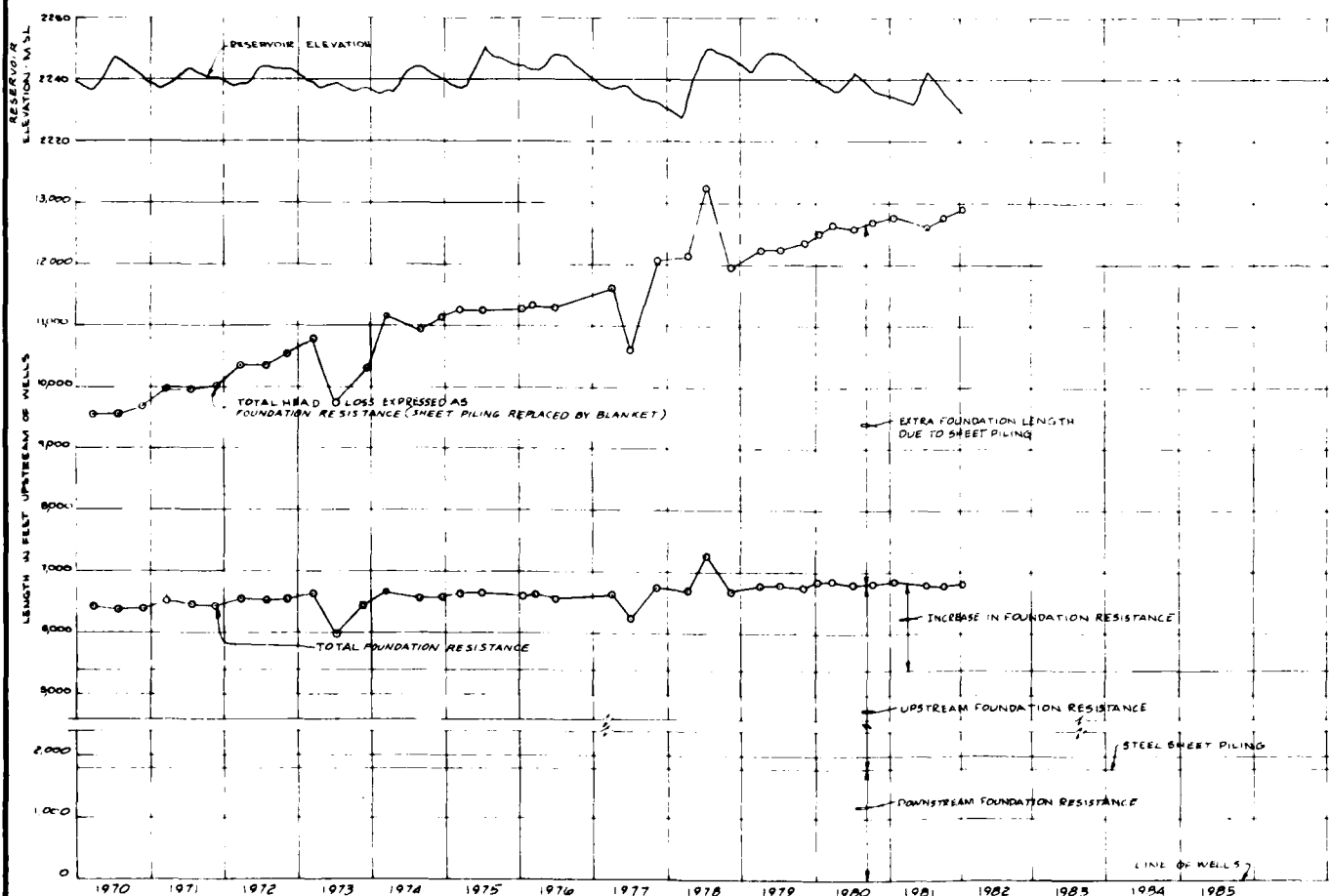
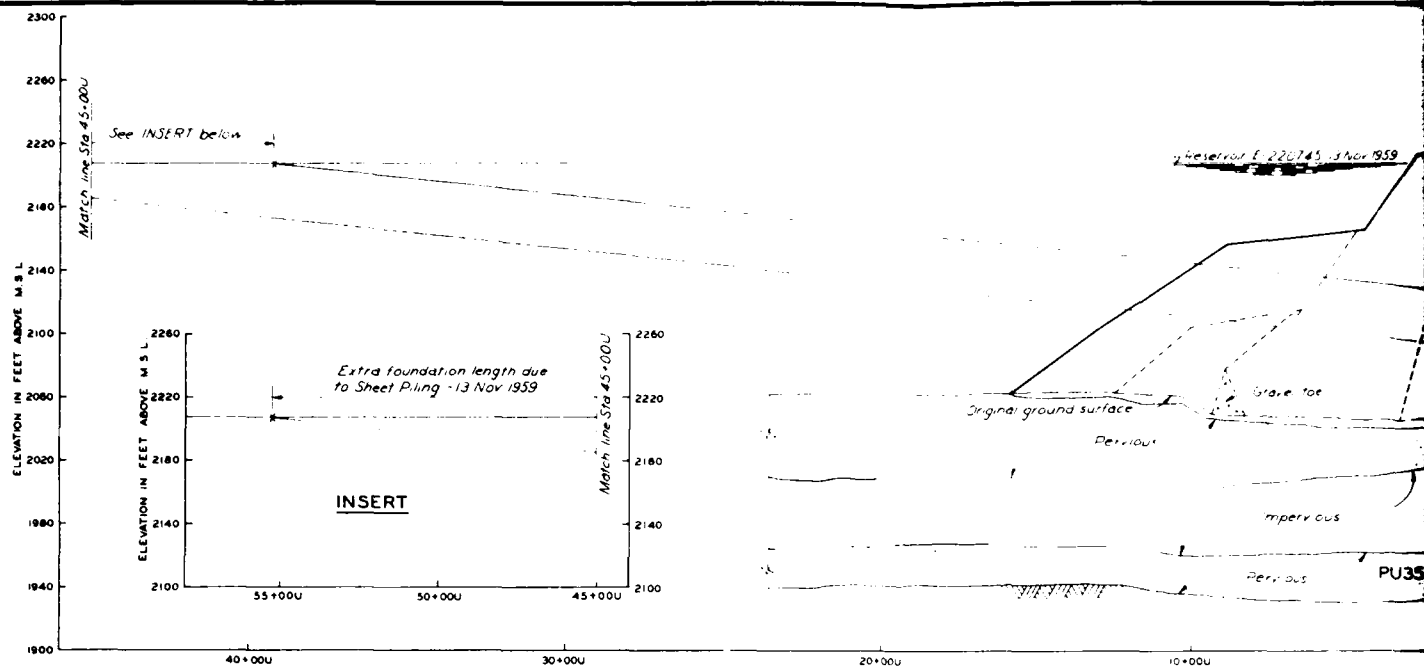
THIS DRAWING HAS BEEN REDUCED TO
THREE-FOURTHS THE ORIGINAL SCALE

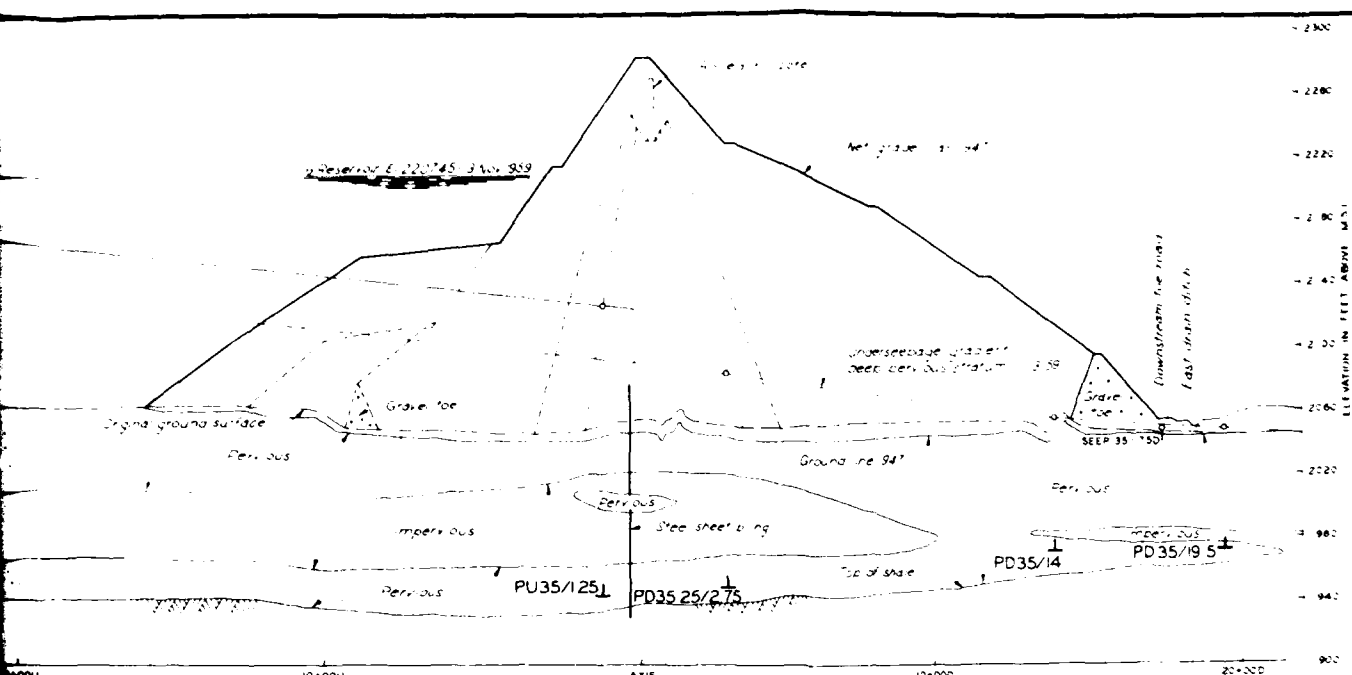
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THIS PLAN ACCOMPANIES CONTRACT NO. _____
MODIFICATION NO. _____

FORT PECK DAM AND RESERVOIR EMBANKMENT CRITERIA AND PERFORMANCE REPORT PLATE 7-27

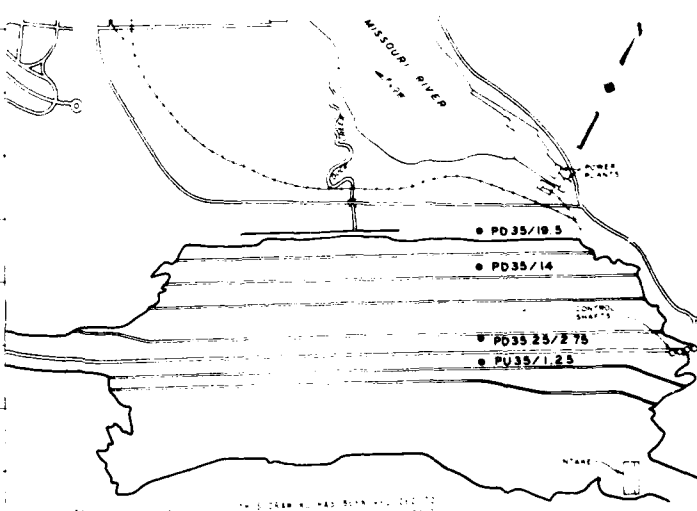
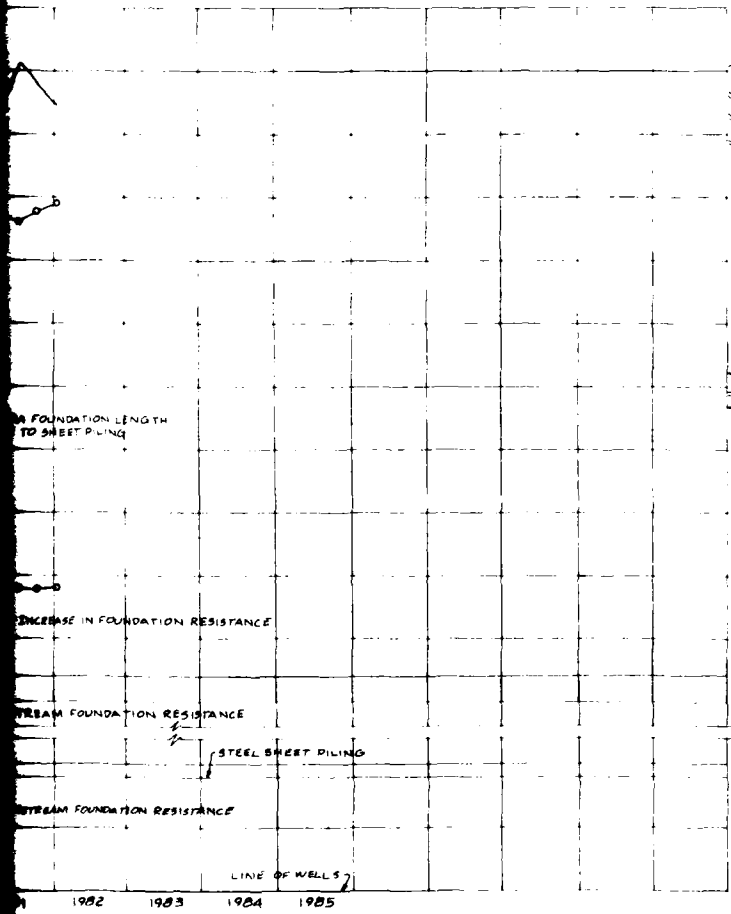






SECTIONS- STA. 35+00

SCALE VERT 1 INCH = 40 FEET
HORIZ 1 INCH = 200 FEET

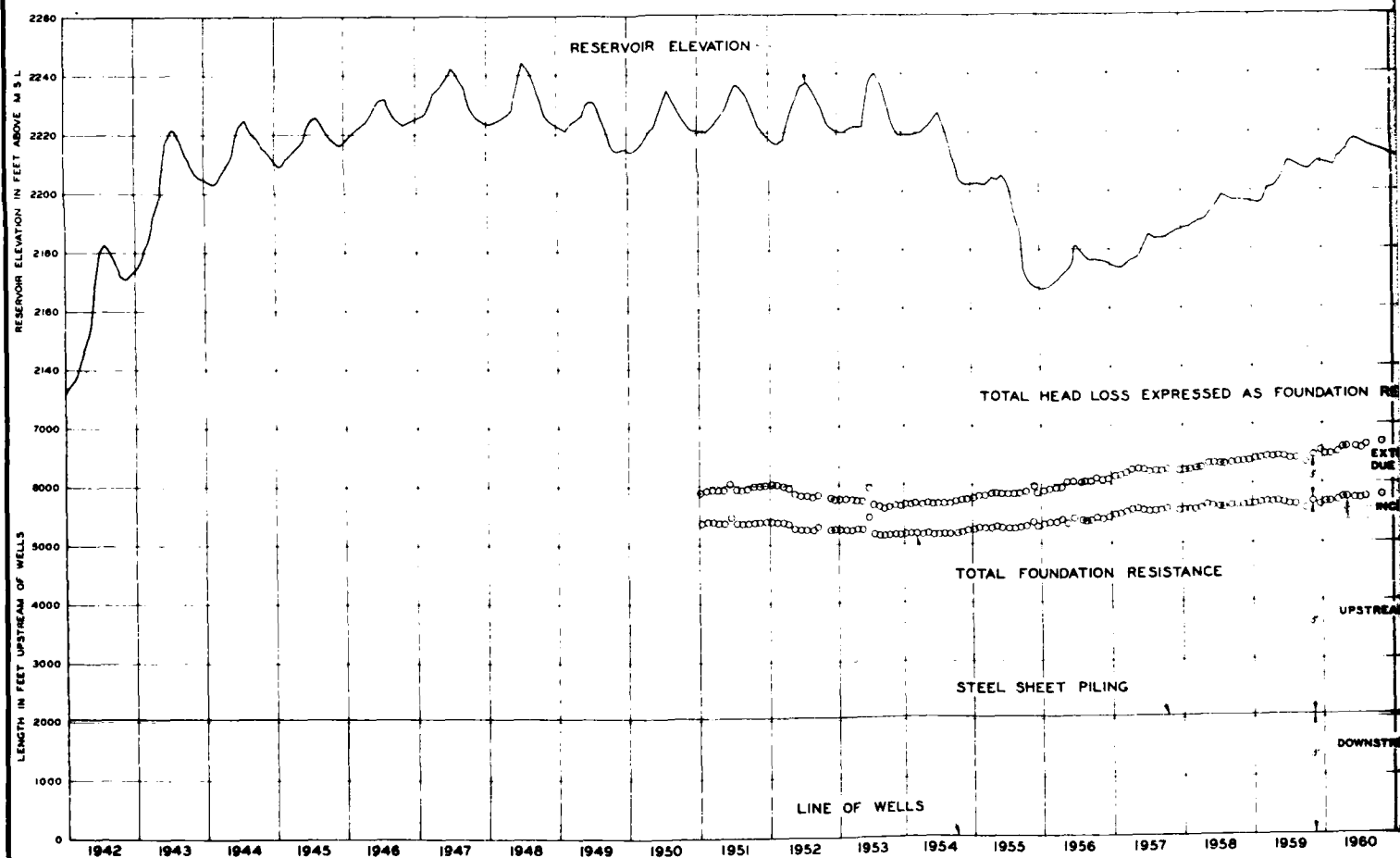
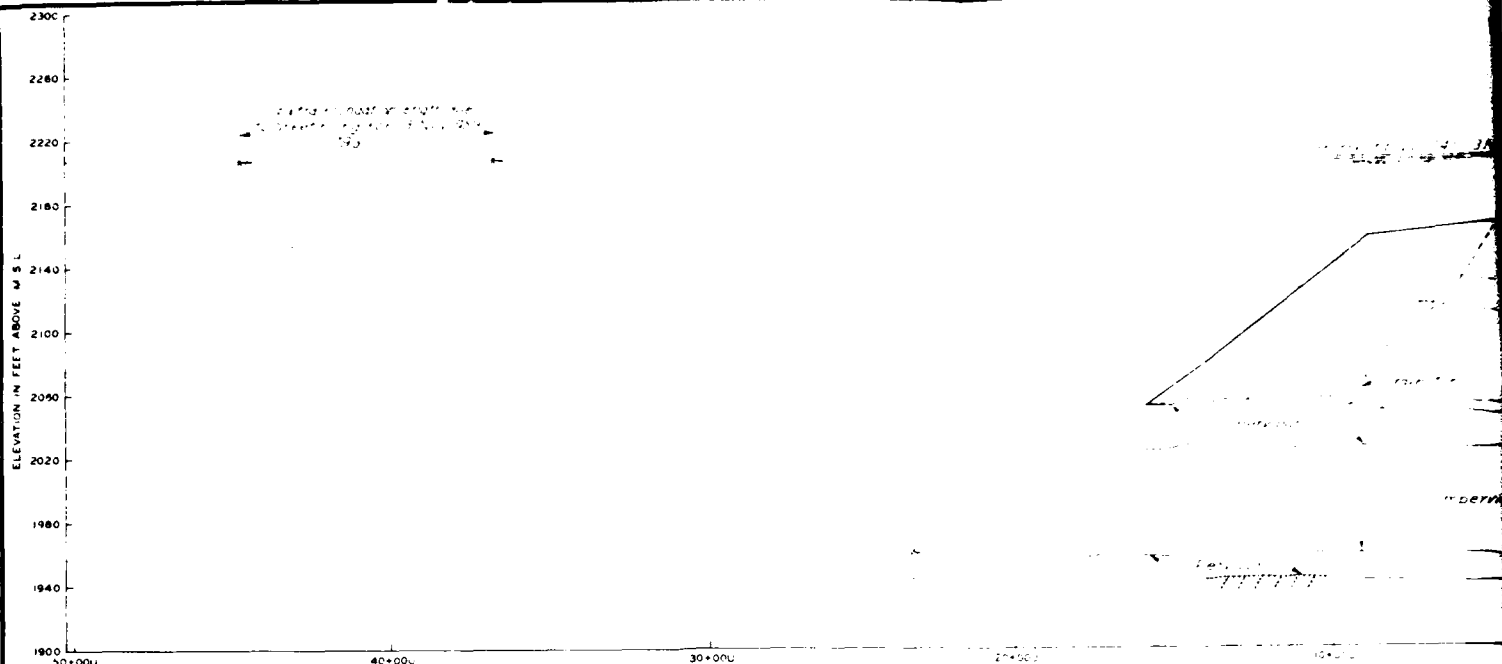


KEY PLAN

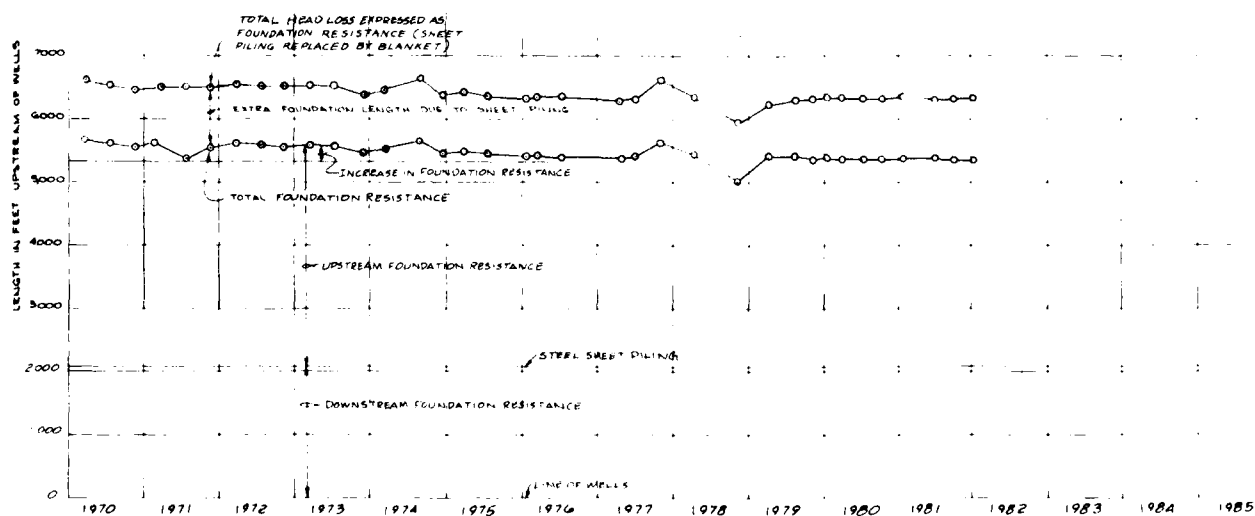
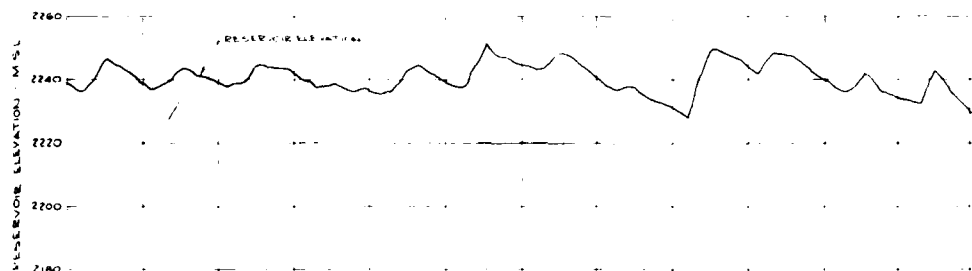
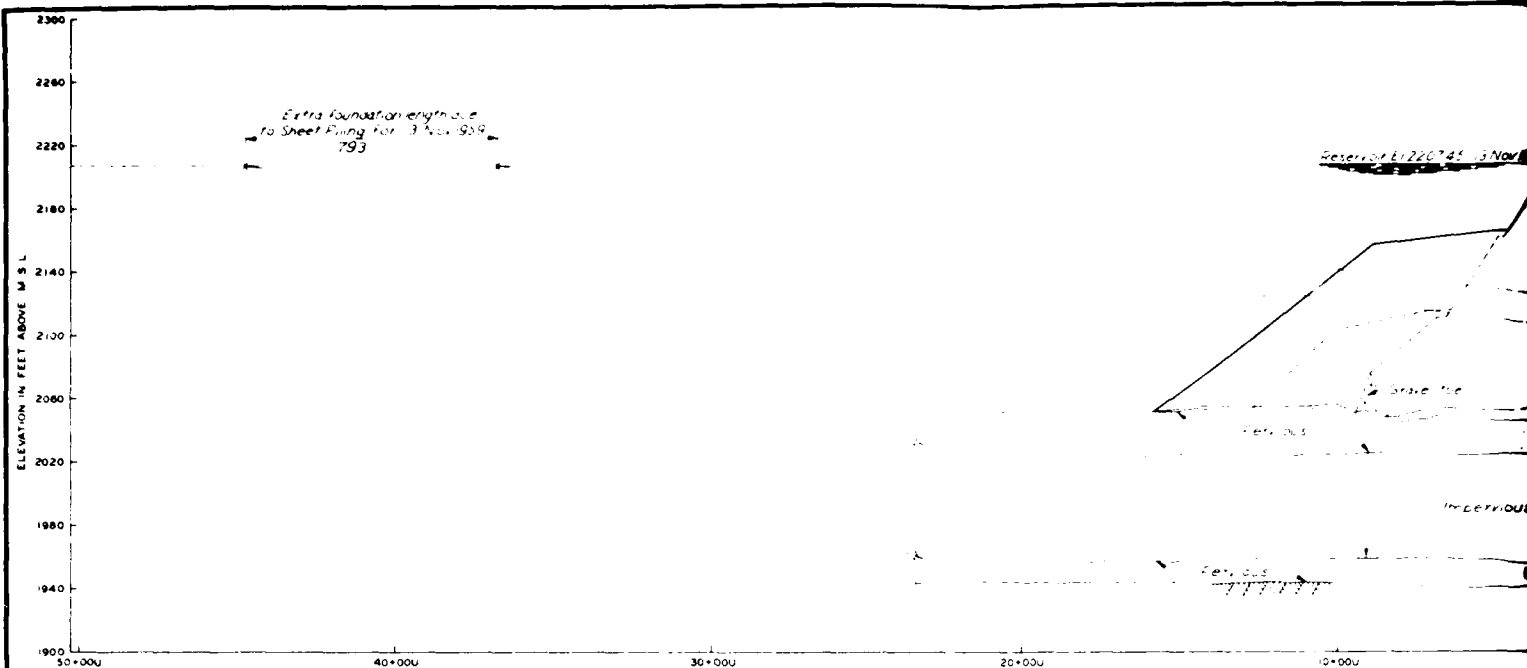
DATE	REVISION	NAME	APPROV
REVISOR			
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA			
DESIGNED BY:		MISSOURI RIVER	
DRAWN BY:		FORT PECK LAKE, MONTANA	
CHECKED BY:		UNDERSEEPAGE STUDIES	
REVIEWED BY:		STATION 35+00	
DATE	APPROVED	DATE	APPROVED
DATE	APPROVED	DATE	APPROVED
DATE	APPROVED	DATE	APPROVED
DATE	APPROVED	DATE	APPROVED

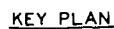


THIS PLAN ACCOMPANIES CONTRACT NO. _____
MODIFICATION NO. _____



FORT PECK DAM AND RESERVOIR



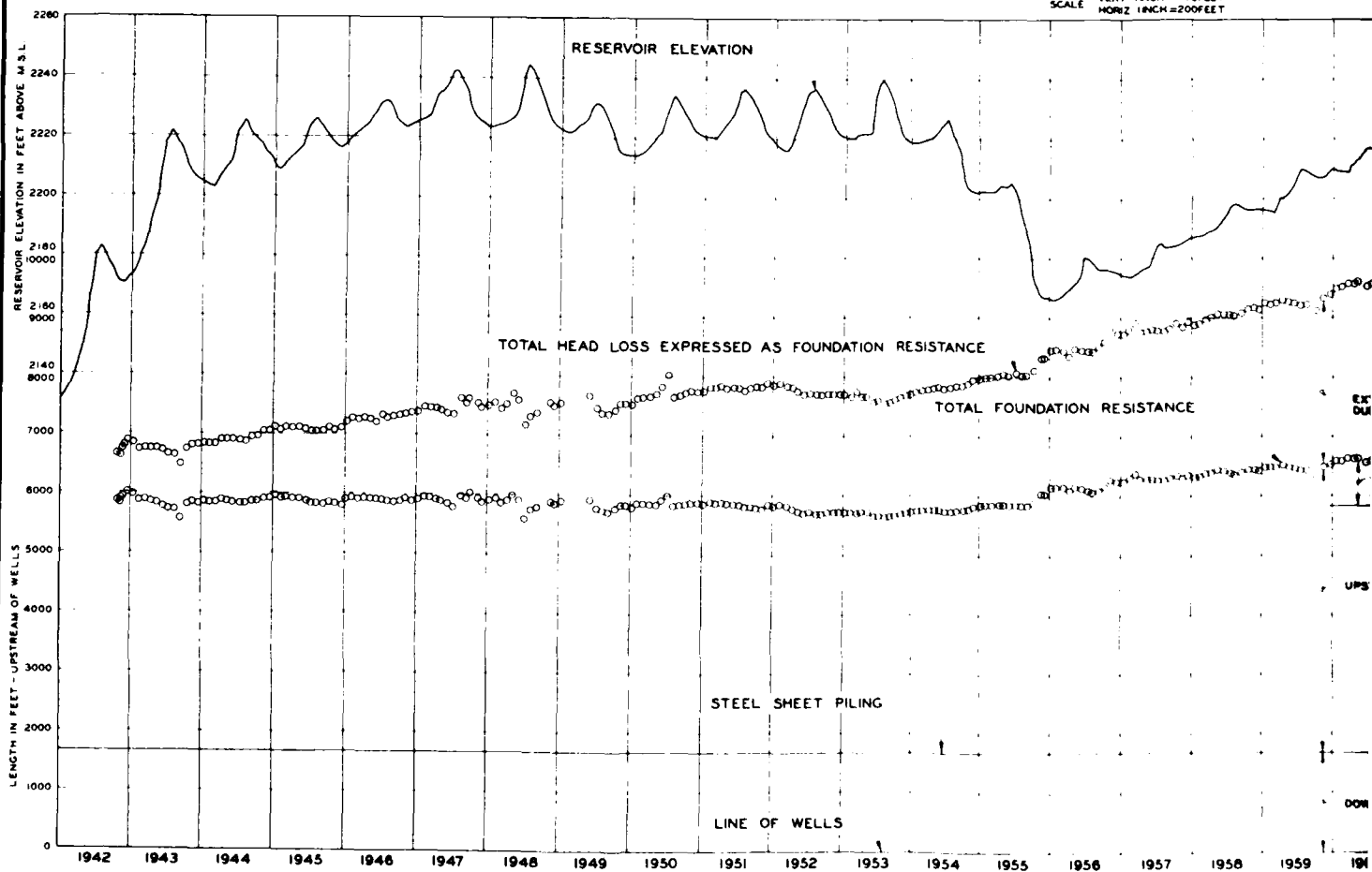
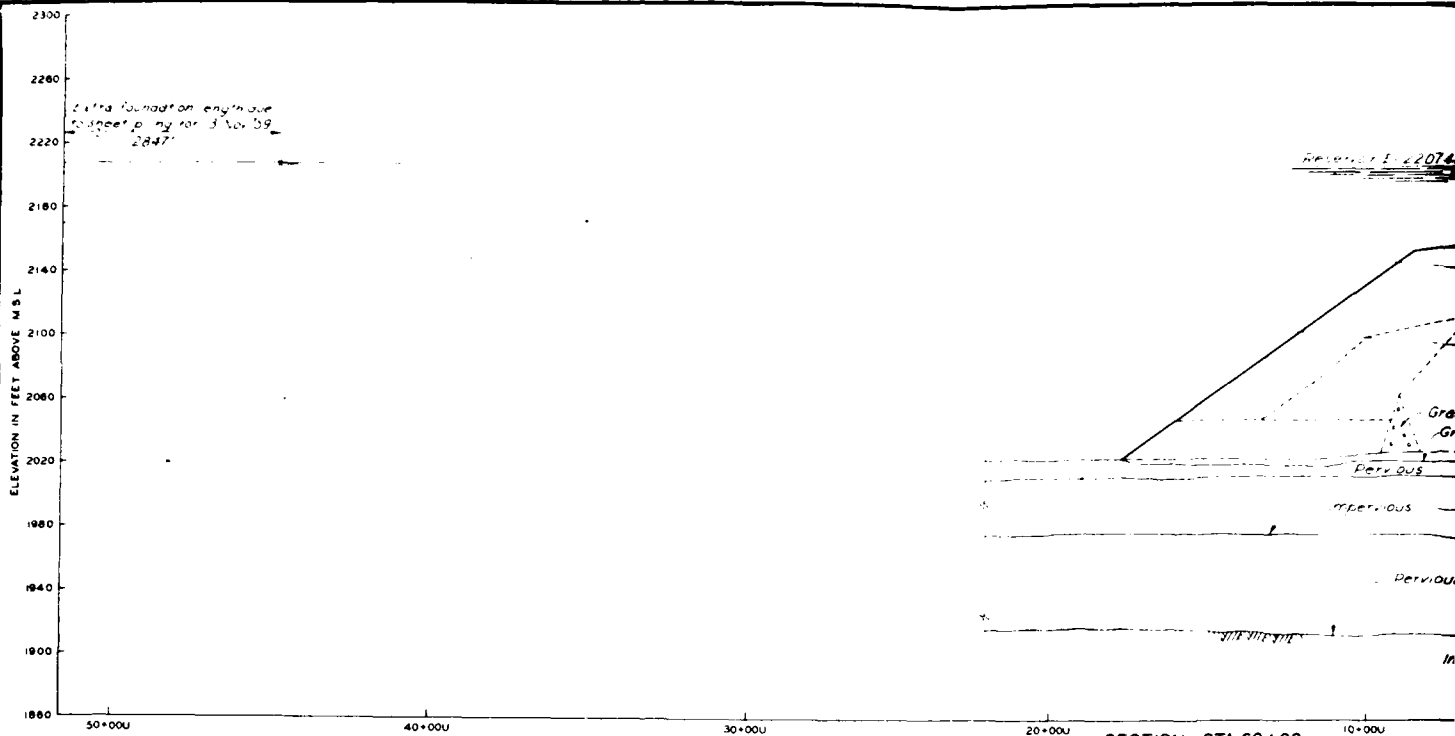


FROM: JAMES R. FAS BLEN BELL CO
TO: JAMES R. FAS BLEN BELL CO

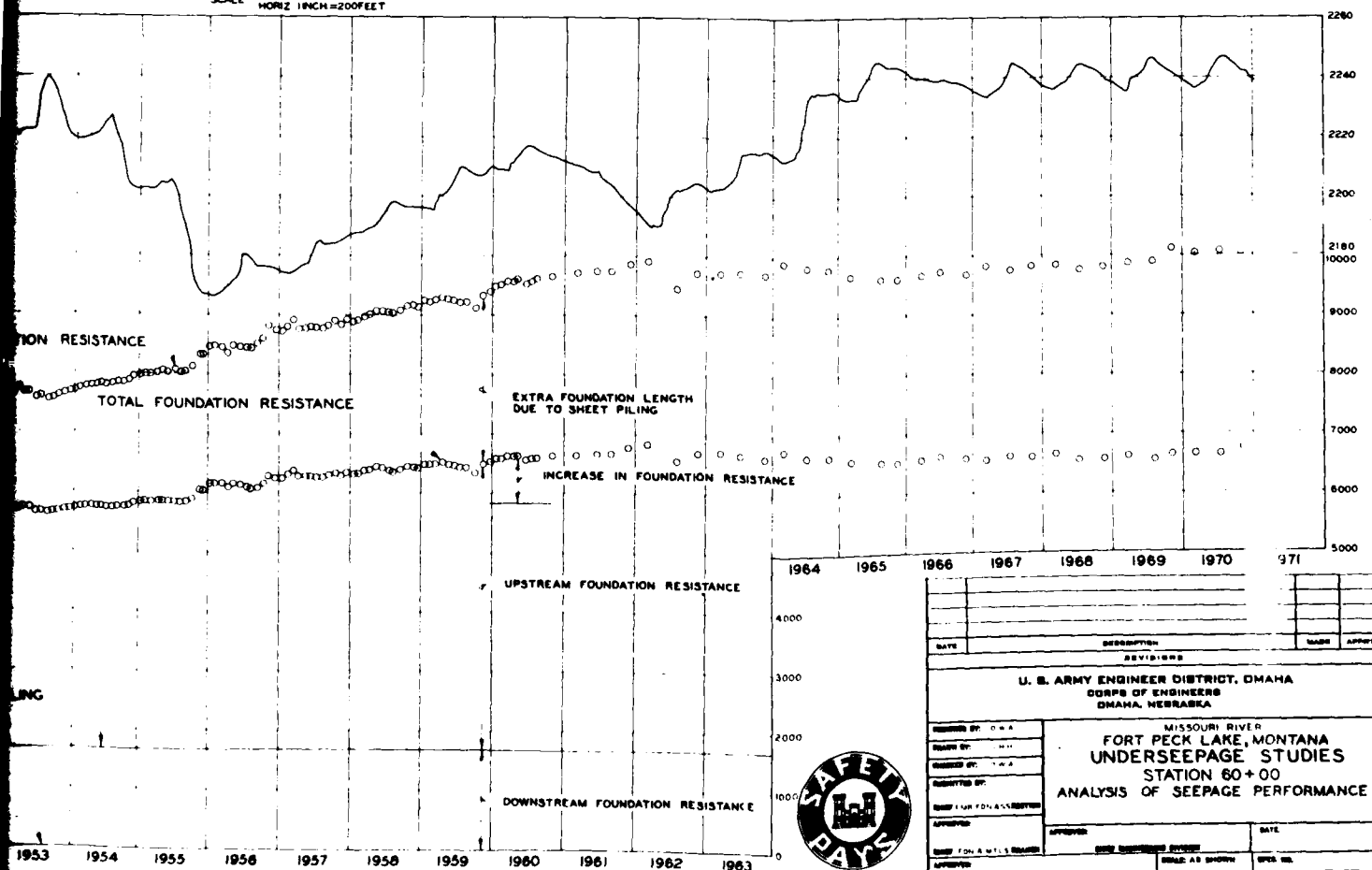
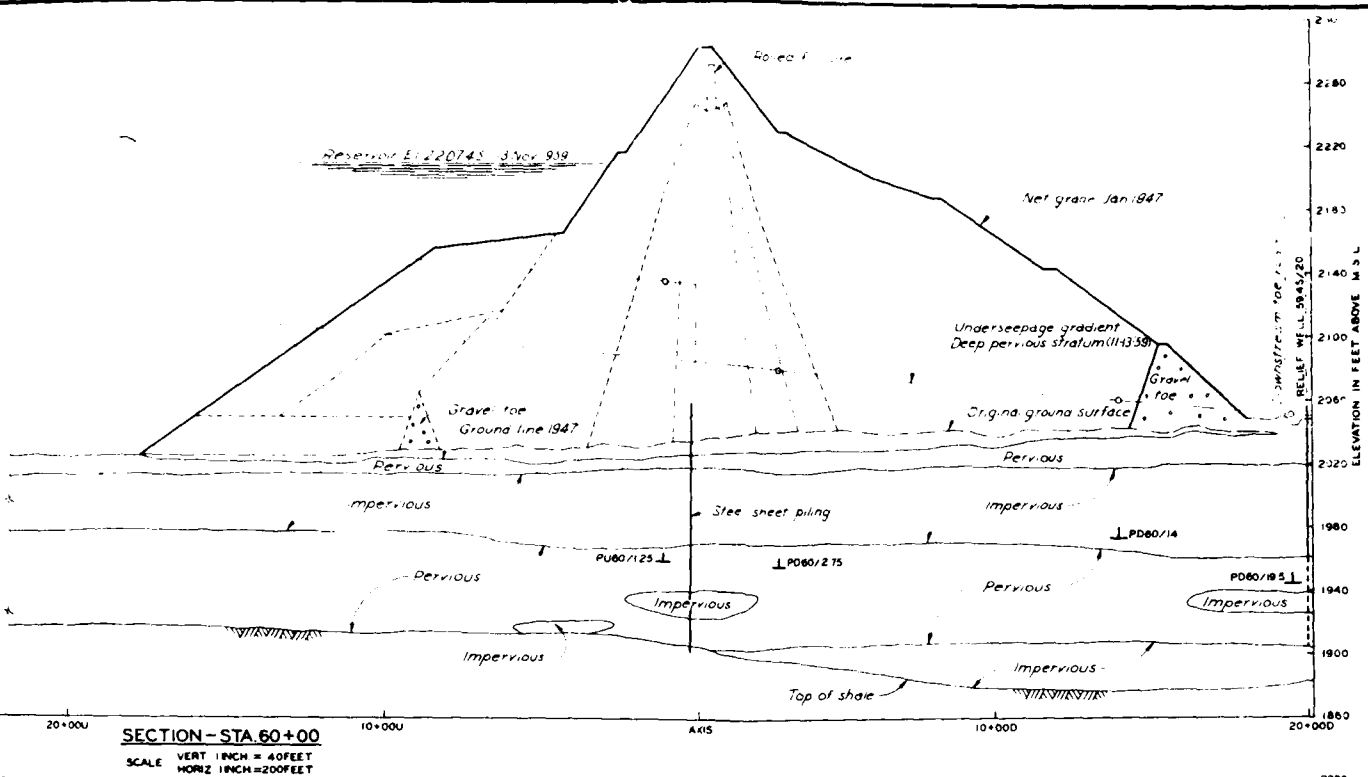
[illegible]

THIS PLAN ACCOMPANIES CONTRACT NO. _____
MODIFICATION NO. _____

FORT PECK DAM AND RESERVOIR EMBANKMENT CRITERIA AND PERFORMANCE REPORT PLATE 7 36



FORT PECK DAM AND RESEI



DATE	DESCRIPTION	MADE	APPROVED
1964			
1965			
1966			
1967			
1968			
1969			
1970			
1971			

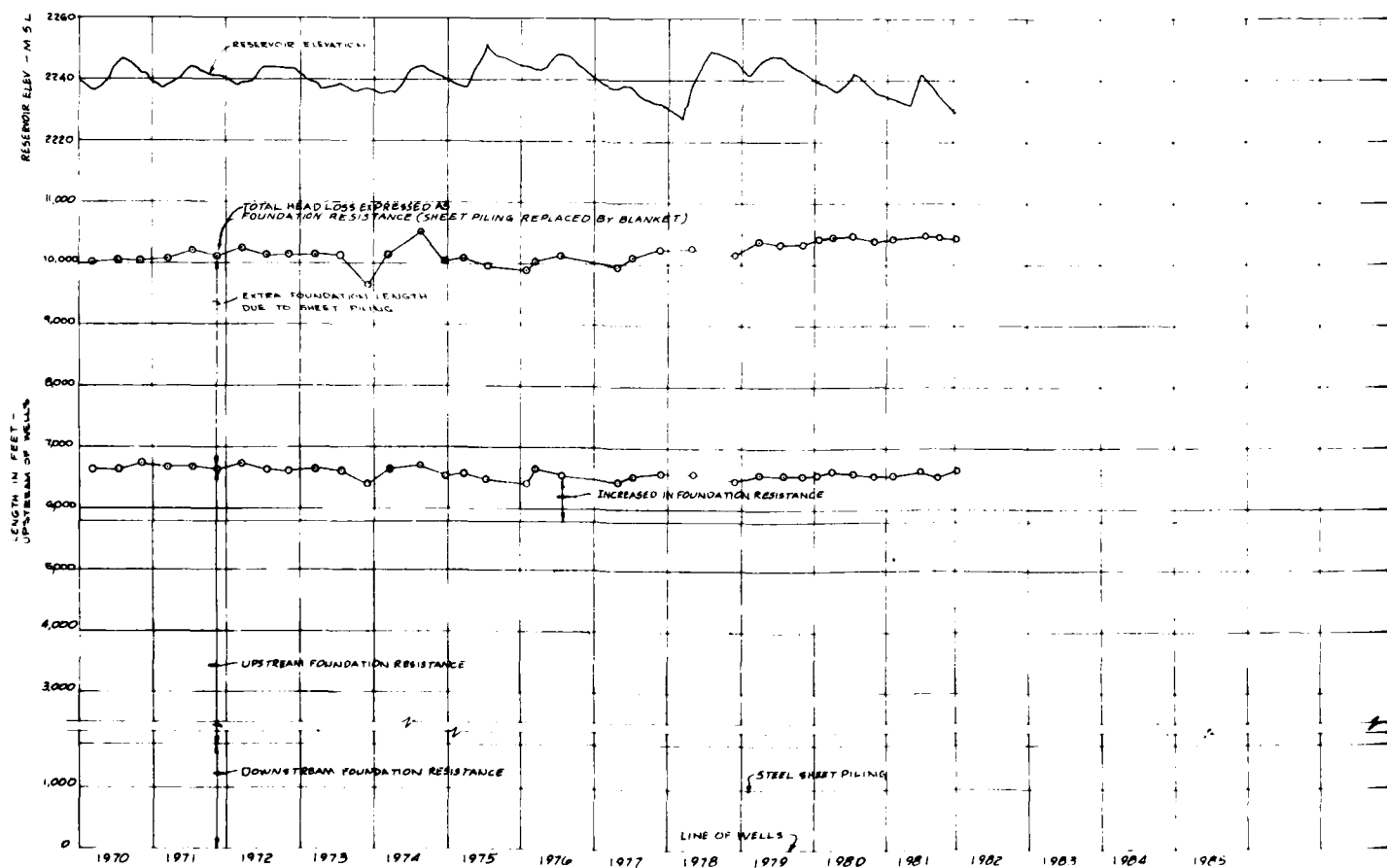
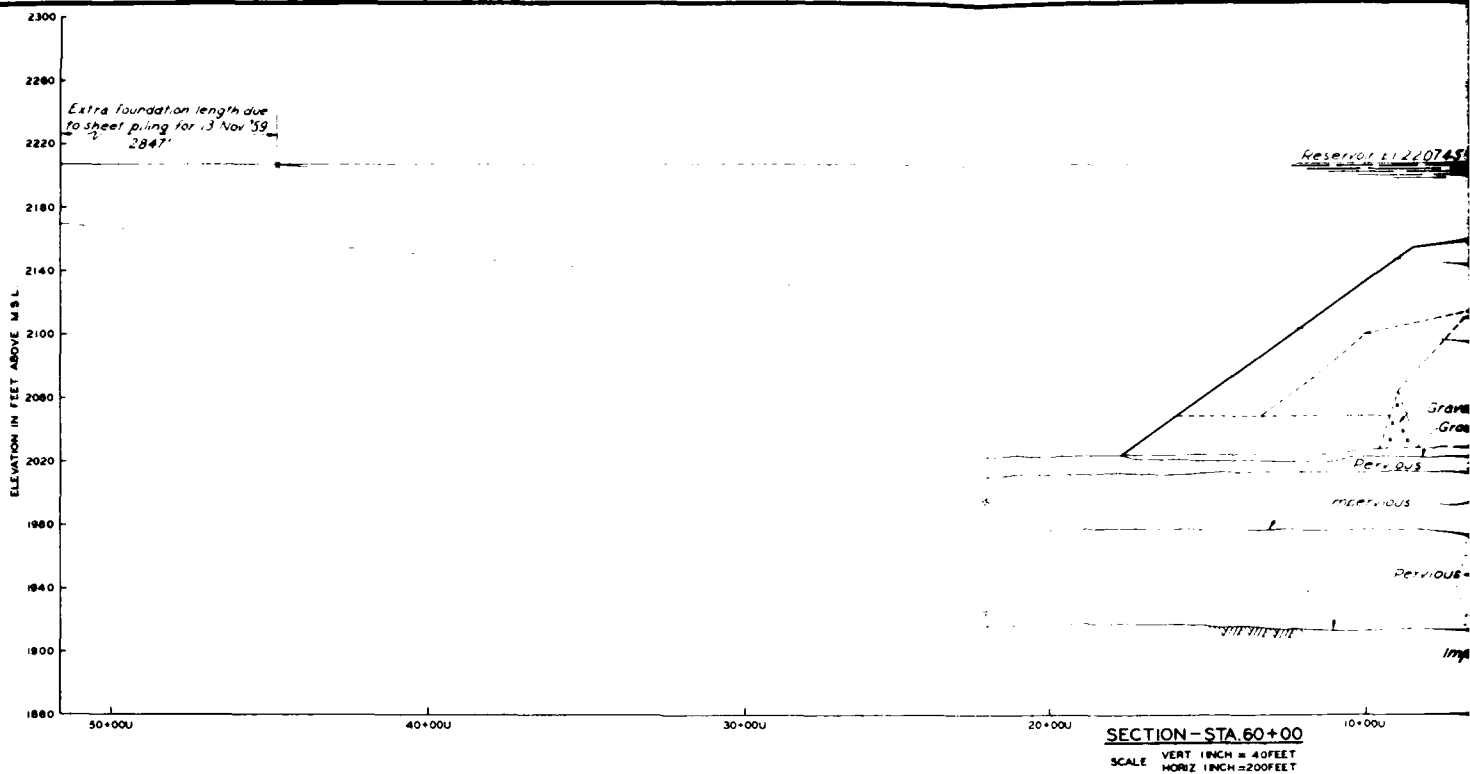
**U. S. ARMY ENGINEER DISTRICT, OMAHA
 CORPS OF ENGINEERS
 OMAHA, NEBRASKA**

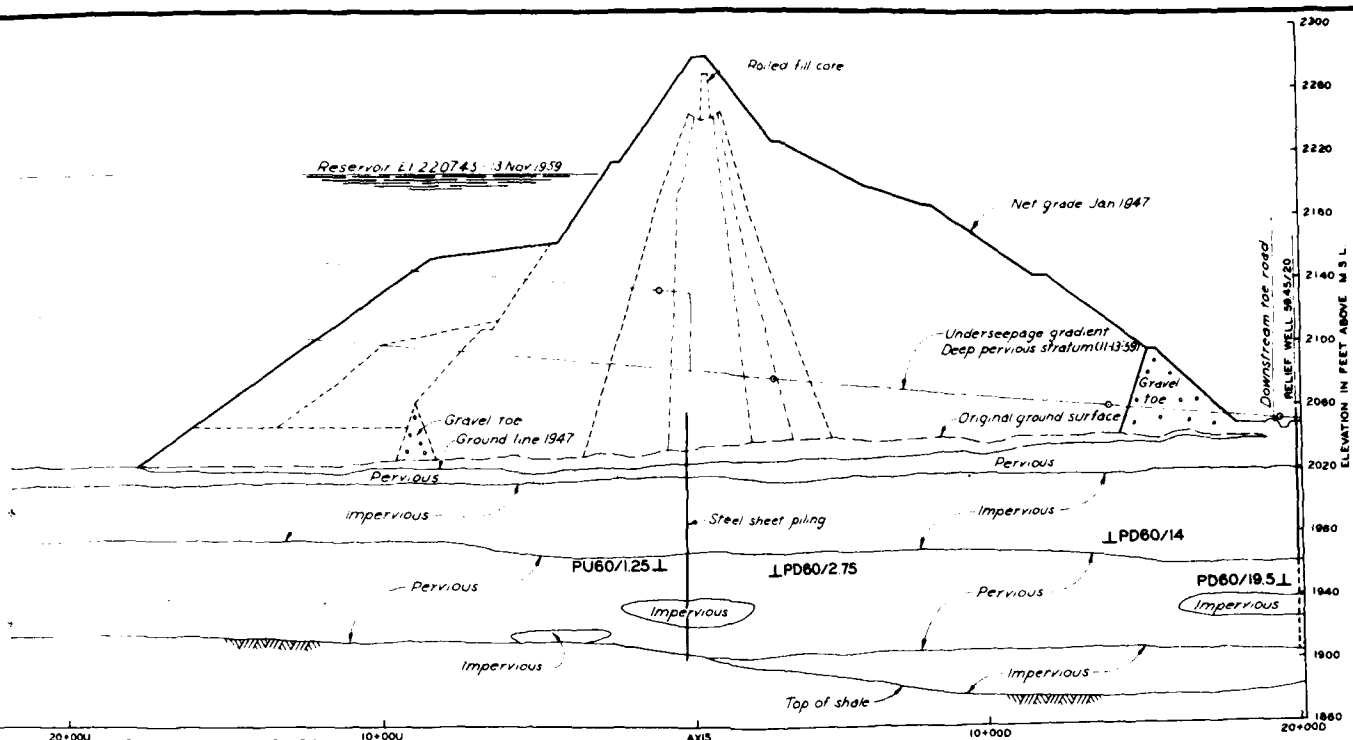
**MISSOURI RIVER
 FORT PECK LAKE, MONTANA
 UNDERSEepage STUDIES
 STATION 60+00
 ANALYSIS OF SEEPAGE PERFORMANCE**

DESIGNED BY: O. A. A.
 DRAWN BY: H. H.
 CHECKED BY: H. H.
 REVISIONS BY: H. H.
 APPROVED: H. H.
 DATE: H. H.

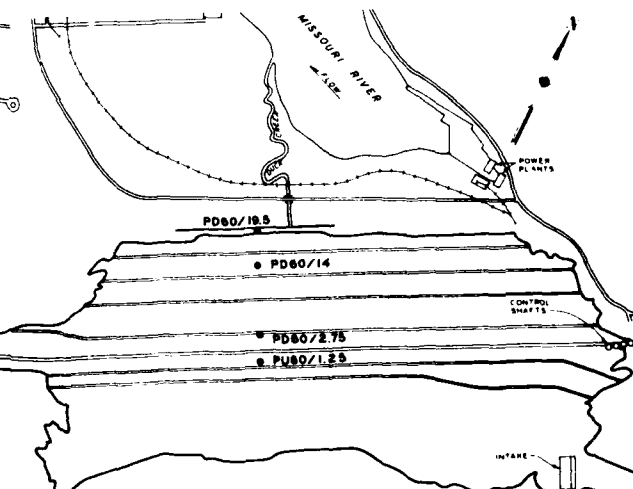
THIS PLAN ACCOMPANIES CONTRACT NO. _____
 MODIFICATION NO. _____

U. S. E. DISTRICT ENGINEER





SECTION - STA. 60+00
 SCALE: VERT 1 INCH = 40 FEET
 HORIZ 1 INCH = 200 FEET



KEY PLAN

THIS DRAWING HAS BEEN REDUCED TO
 THREE-EIGHTHS THE ORIGINAL SCALE.

REVISIONS		DATE	DESCRIPTION	MADE	APPROVED

U. S. ARMY ENGINEER DISTRICT, OMAHA
CORPS OF ENGINEERS
OMAHA, NEBRASKA

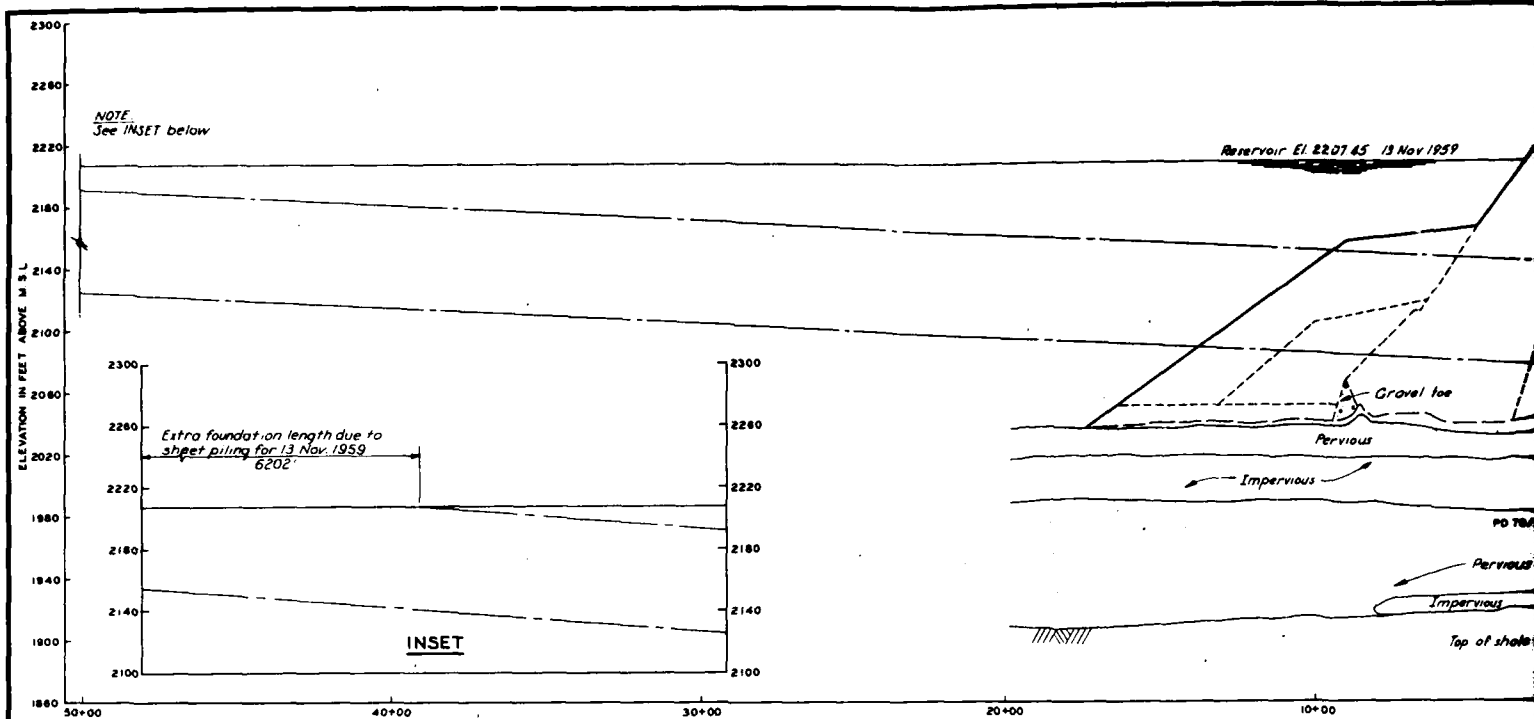
MISSOURI RIVER
FORT PECK LAKE, MONTANA
UNDERSEEPAGE STUDIES
STATION 60+00
ANALYSIS OF SEEPAGE PERFORMANCE
BENEATH CLAY STRATUM

DESIGNED BY:			
CHECKED BY:			
APPROVED BY:			
DATE:			

U. S. E. DISTRICT ENGINEER

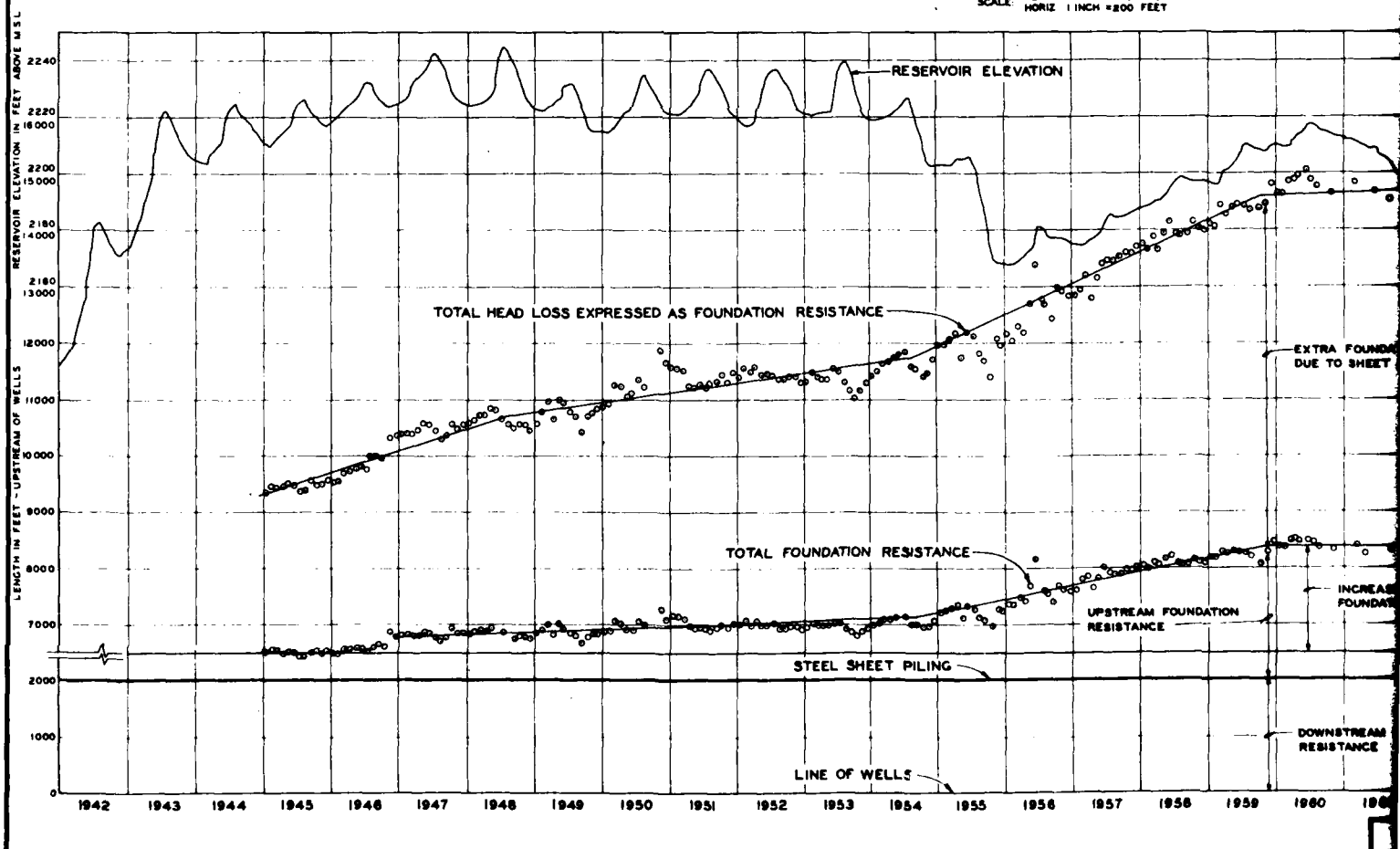


THIS PLAN ACCOMPANIES CONTRACT NO. _____
 MODIFICATION NO. _____

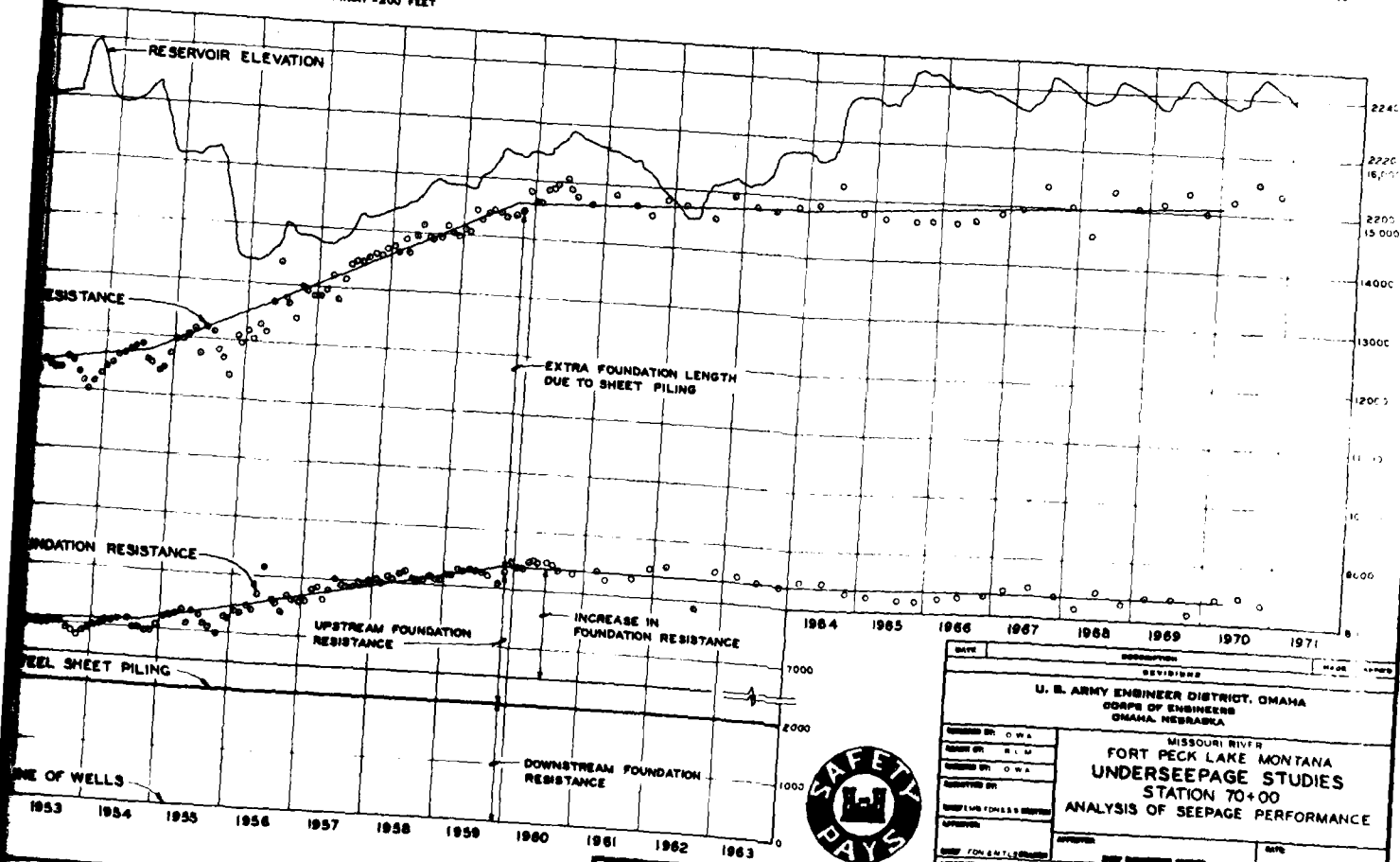
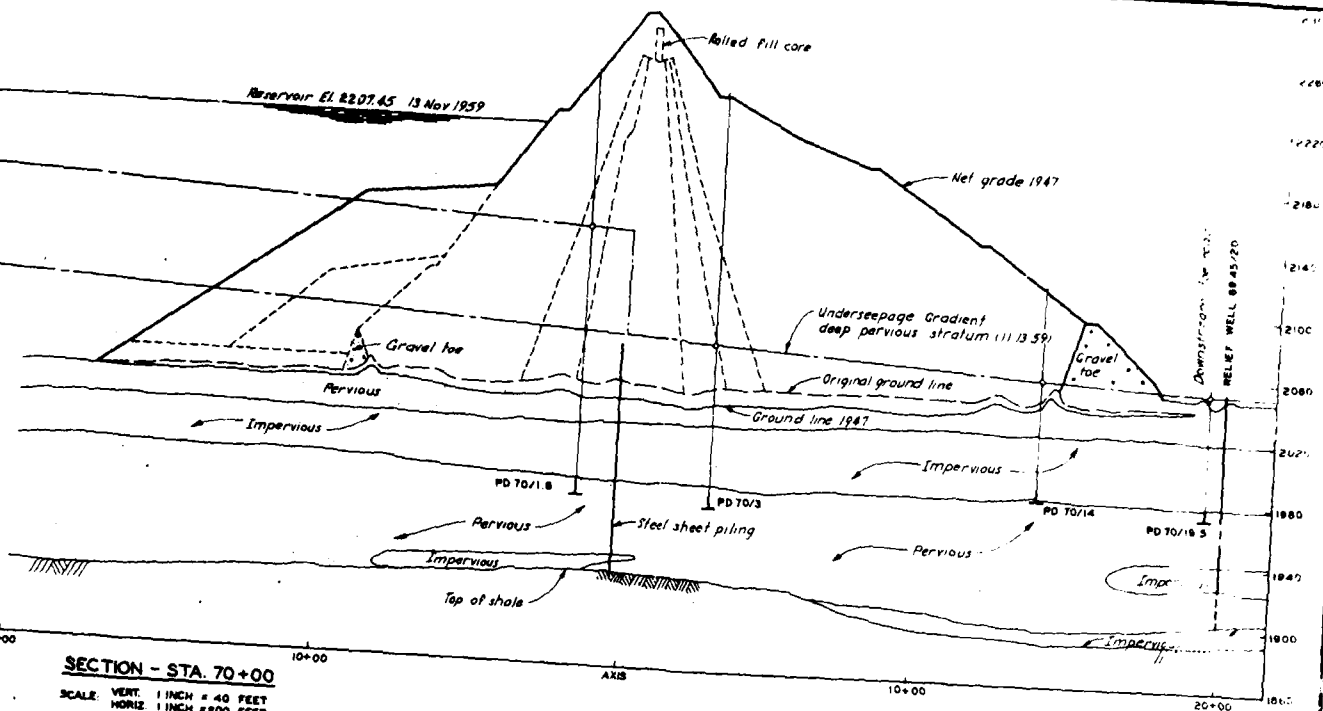


SECTION - STA. 70+00

SCALE VERT. 1 INCH = 40 FEET
HORIZ. 1 INCH = 200 FEET



FORT PECK DAM AND RESERVOIR



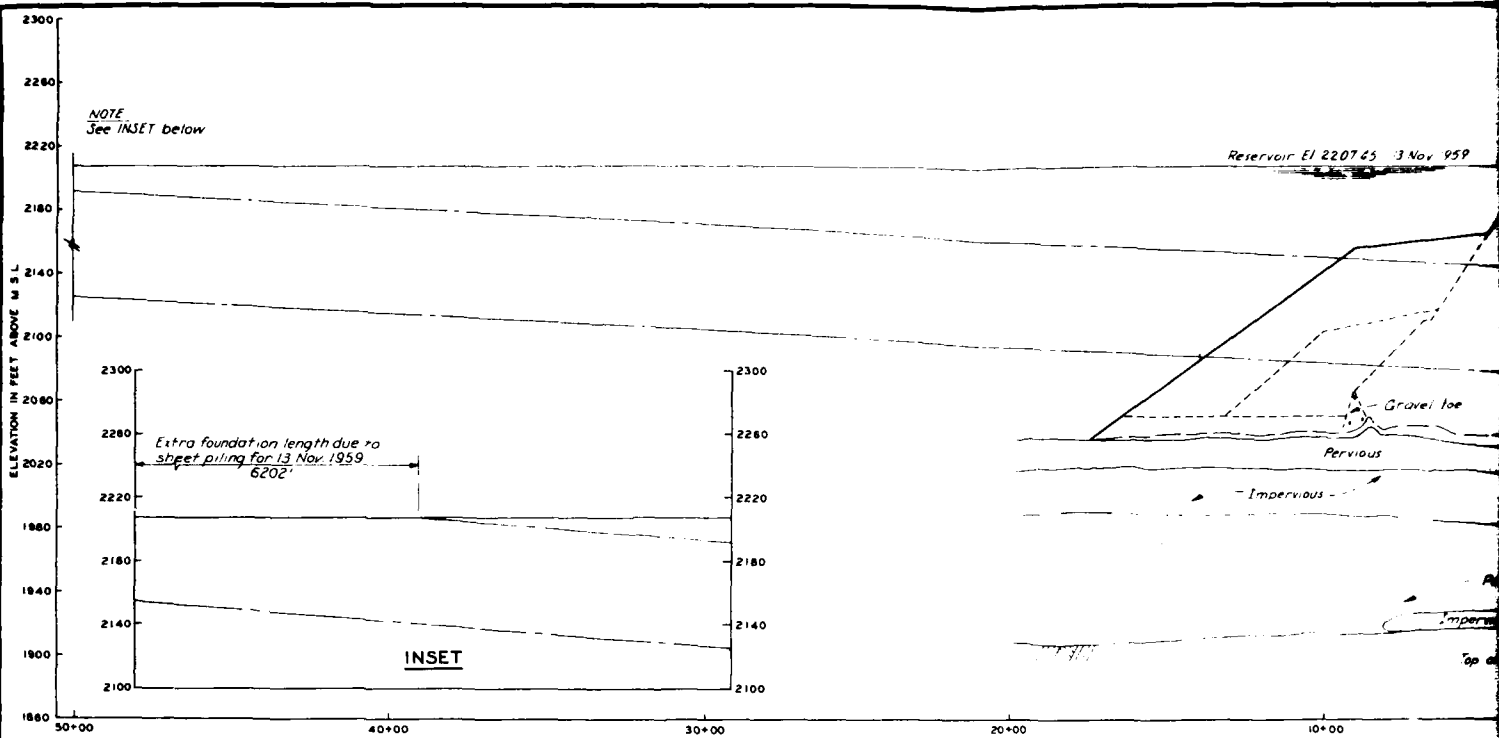
FORT PECK DAM AND RESERVOIR

EMBANKMENT CRITERIA AND PERFORMANCE REPORT

PLATE 7-41

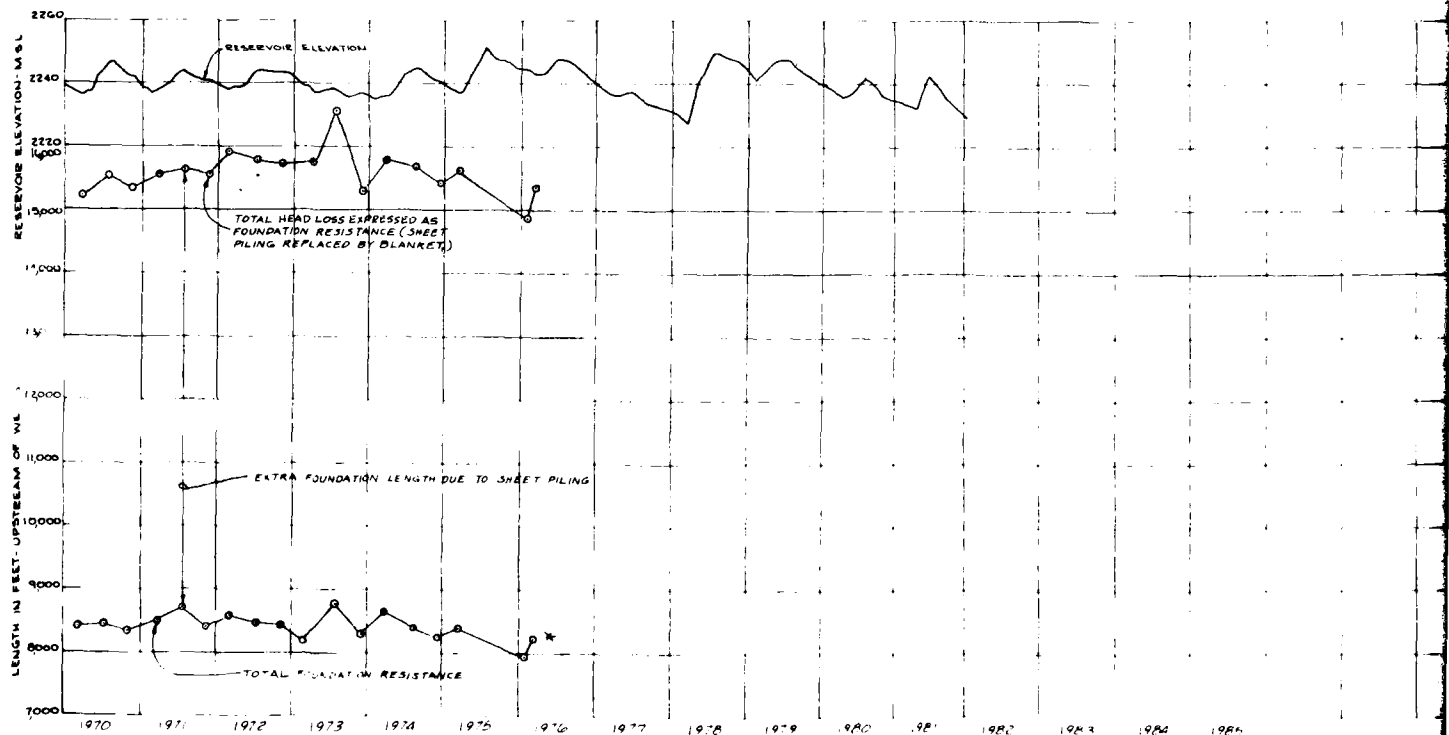
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA	
MISSOURI RIVER FORT PECK LAKE MONTANA STATION 70+00 ANALYSIS OF SEEPAGE PERFORMANCE	
DESIGNED BY: OWA	DATE: 1964
DRAWN BY: R. L. M.	REVISIONS: 1
CHECKED BY: OWA	DATE: 1964
APPROVED BY: [Signature]	DATE: 1964
CHIEF ENGINEER, DISTRICT	DATE: 1964
CHIEF OF ENGINEERS	DATE: 1964
CHIEF OF ENGINEERS	DATE: 1964



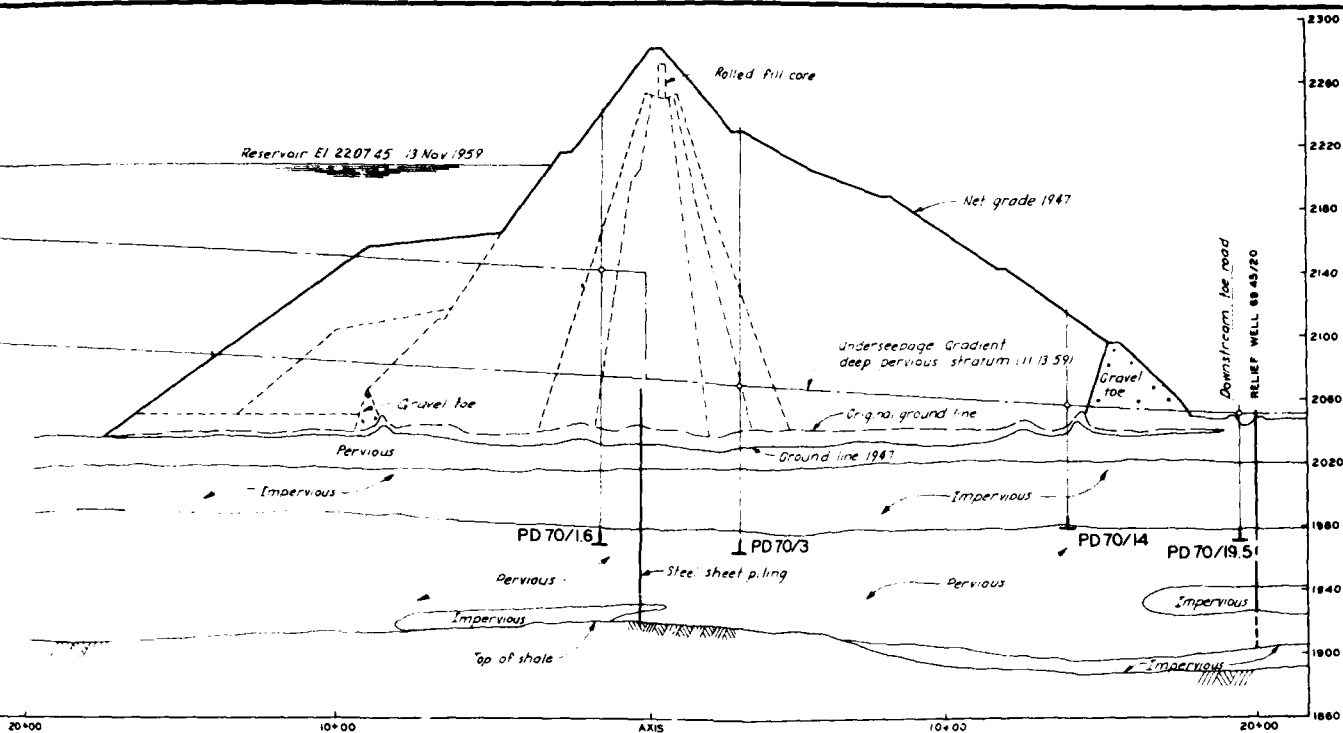


SECTION - STA. 70+00

SCALE VERT 1 INCH = 40 FEET
HORIZ 1 INCH = 200 FEET

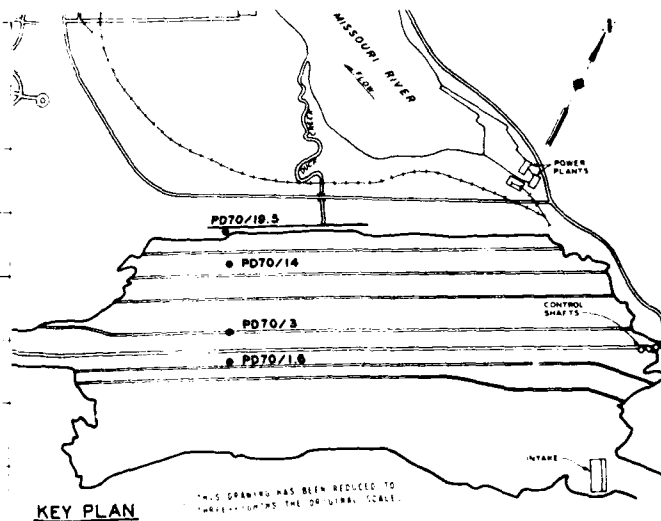


P11 70/14 under water since 1976



SECTION - STA. 70+00

SCALE VERT 1 INCH = 40 FEET
HORIZ 1 INCH = 200 FEET

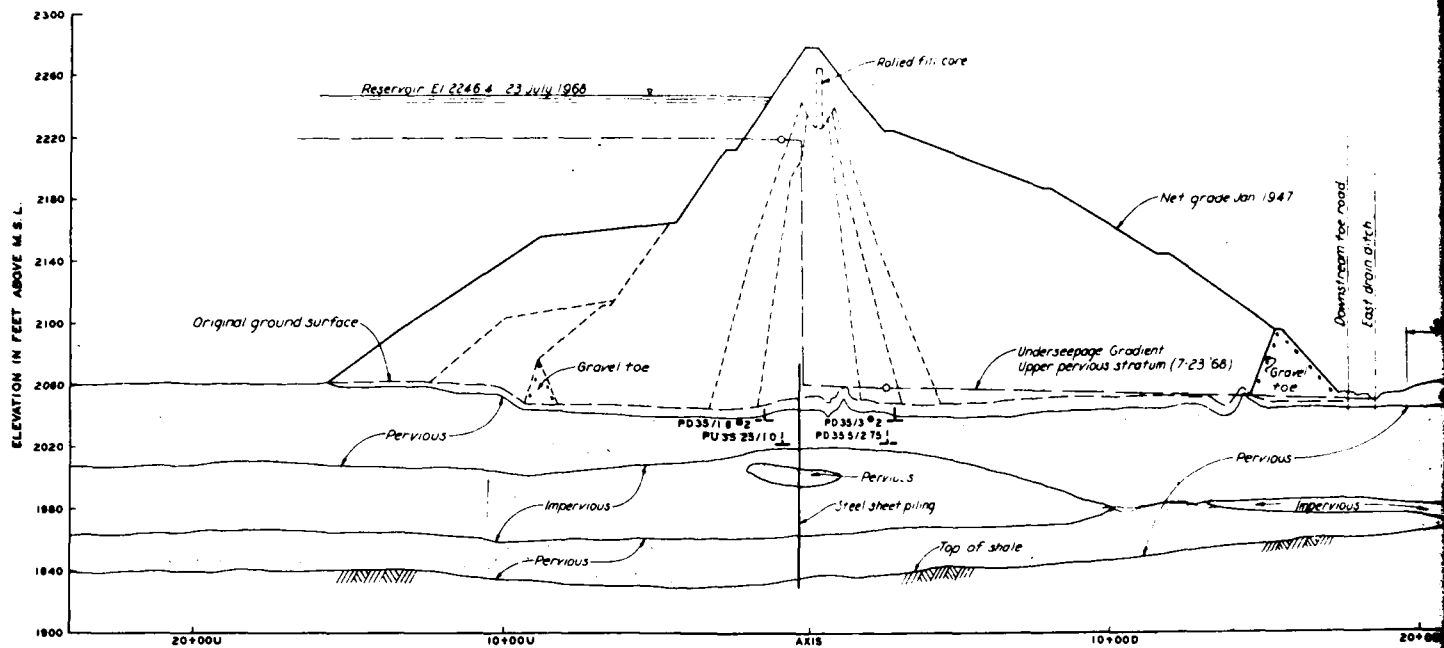


KEY PLAN

DATE	DESCRIPTION	MADE	APPROVED
REVISIONS			
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA			
DESIGNED BY:	MISSOURI RIVER FORT PECK LAKE, MONTANA UNDERSEEPAGE STUDIES STATION 70+00 ANALYSIS OF SEEPAGE PERFORMANCE BENEATH CLAY STRATUM		
DRAWN BY:			
CHECKED BY:			
APPROVED BY:			
DATE	DATE	DATE	DATE
APPROVED BY:	APPROVED BY:	APPROVED BY:	APPROVED BY:
DATE	DATE	DATE	DATE

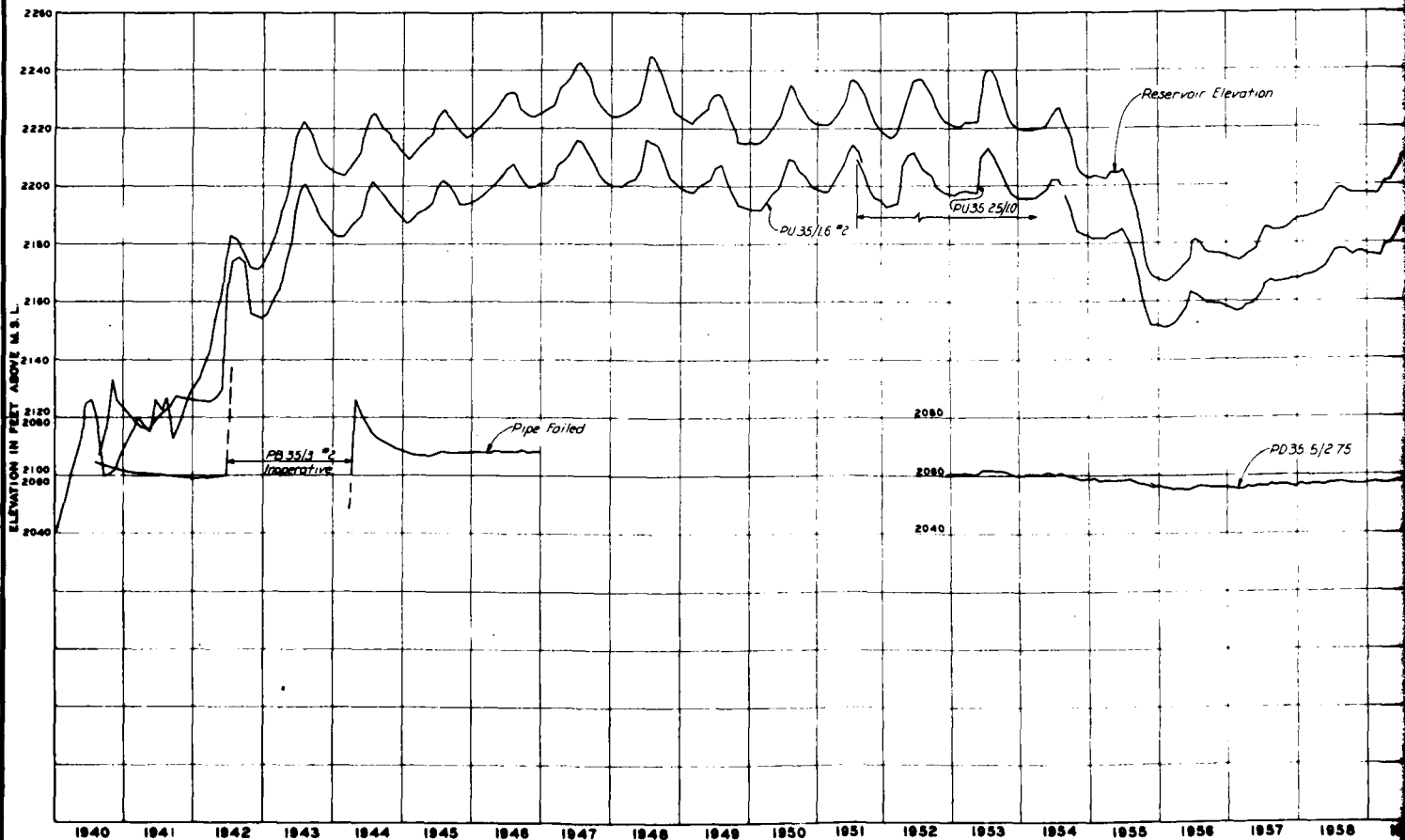


THIS PLAN ACCOMPANIES CONTRACT NO.

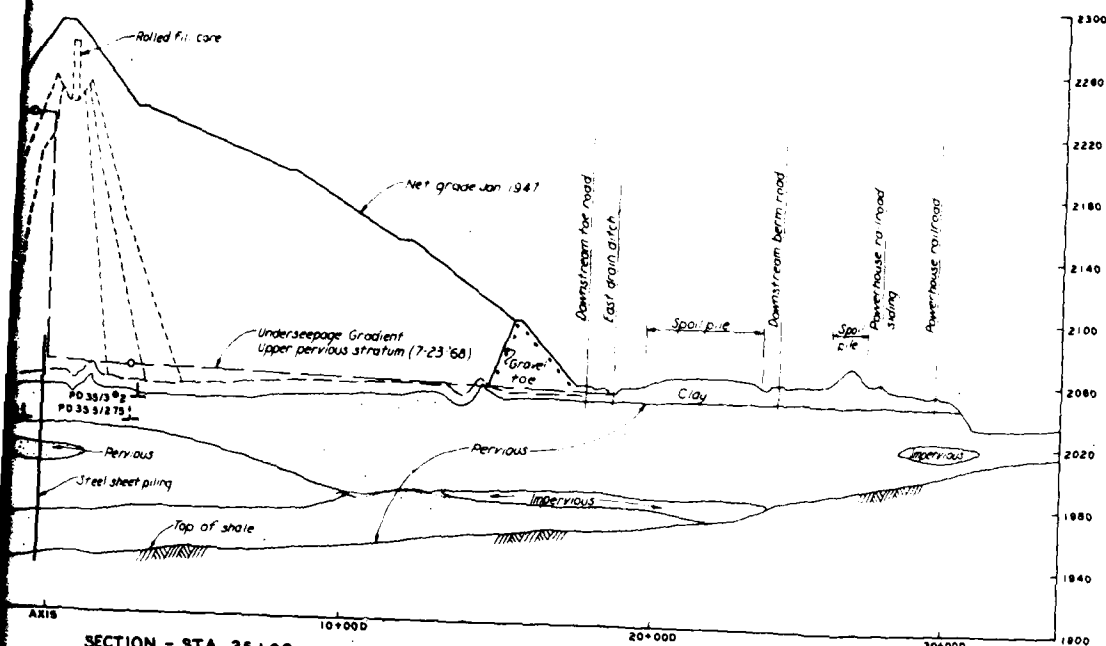


SECTION - STA. 35+00

SCALE: VERT. 1 INCH = 200 FEET
HORIZ. 1 INCH = 40 FEET



FORT PECK DAM AND RESERVOIR



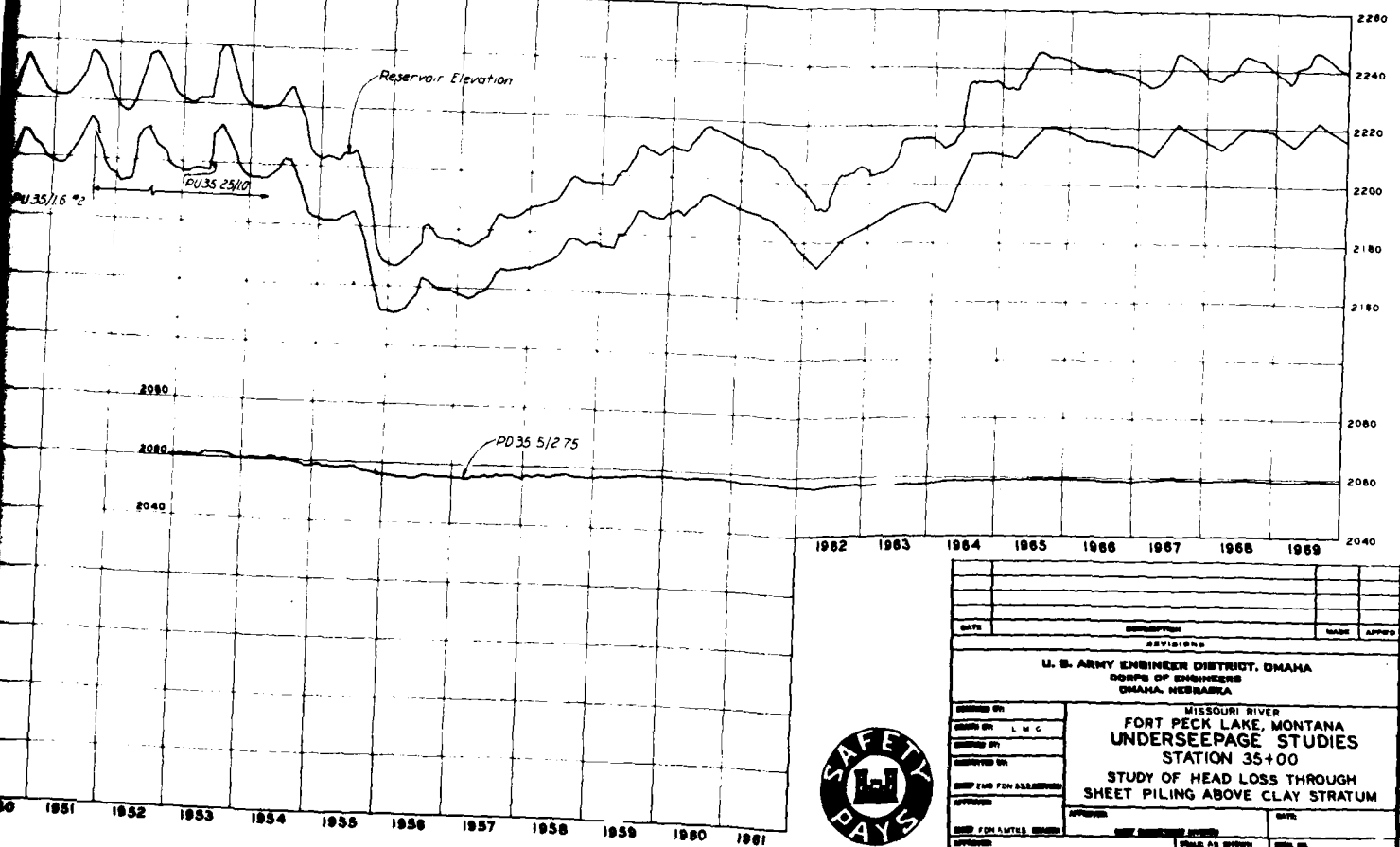
LEGEND

— BOTTOM OF SHALLOW PIEZOMETERS

PD 35/3 #2 PIEZOMETER AT STA 35+00 RANGE 3+00 DOWNSTREAM

SECTION - STA. 35+00

SCALE: VERT. 1 INCH = 200 FEET
HORIZ. 1 INCH = 40 FEET

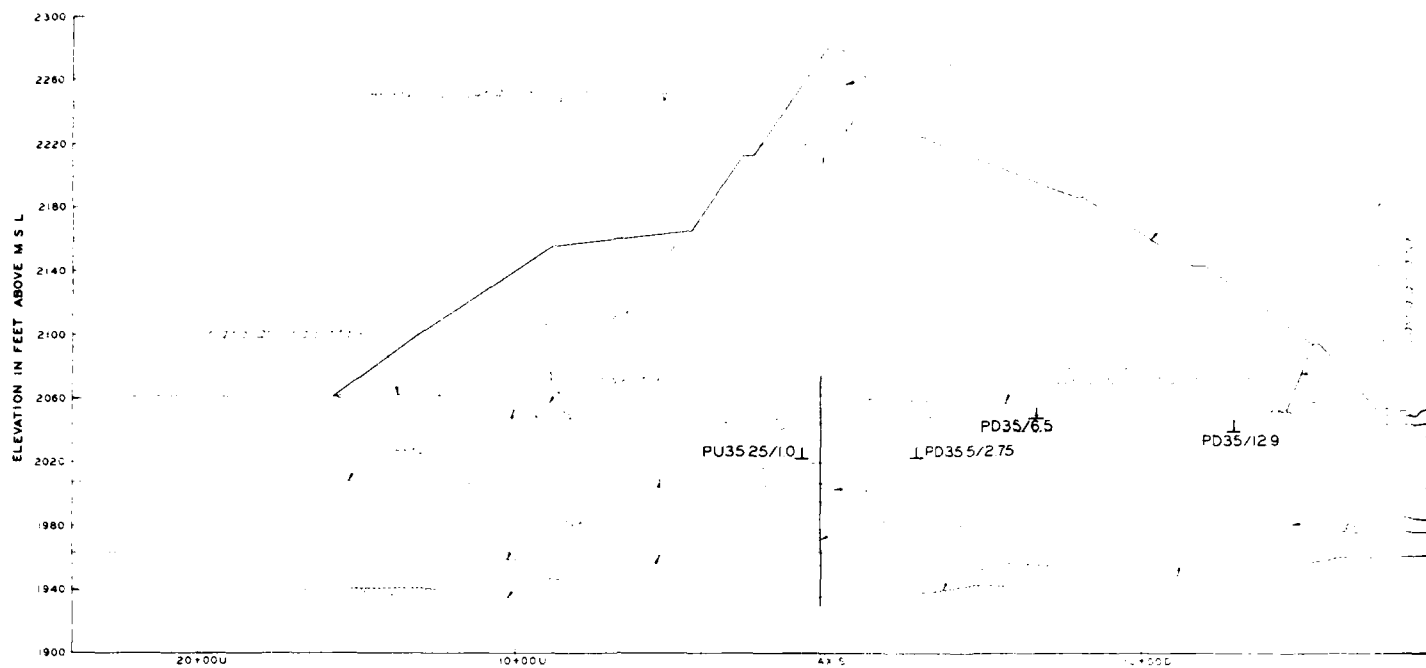


U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA	
MISSOURI RIVER FORT PECK LAKE, MONTANA UNDERSEEPAGE STUDIES STATION 35+00 STUDY OF HEAD LOSS THROUGH SHEET PILING ABOVE CLAY STRATUM	
DESIGNED BY: L. M. C.	DATE: _____
CHECKED BY: _____	REVISIONS: _____
APPROVED BY: _____	MADE: _____
APPROVED BY: _____	APPROVED: _____
DATE: _____	DATE: _____
SCALE: AS SHOWN	SCALE: _____
PROJECT: _____	PROJECT: _____

FORT PECK DAM AND RESERVOIR

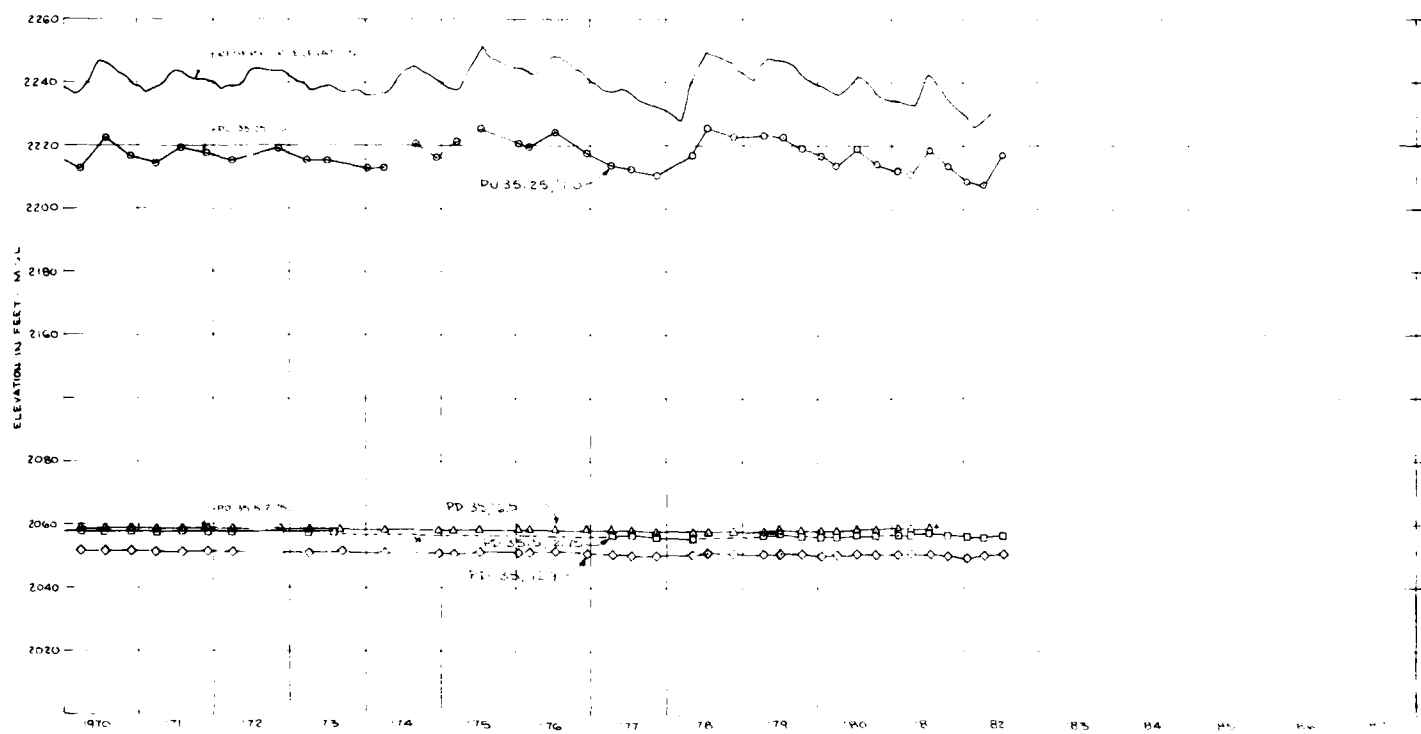
EMBANKMENT CRITERIA AND PERFORMANCE REPORT

PLATE 7-43



SECTION - STA 35+00

VERT. 1 INCH = 200 FEET
SCALE
HORIZ. 1 INCH = 40 FEET



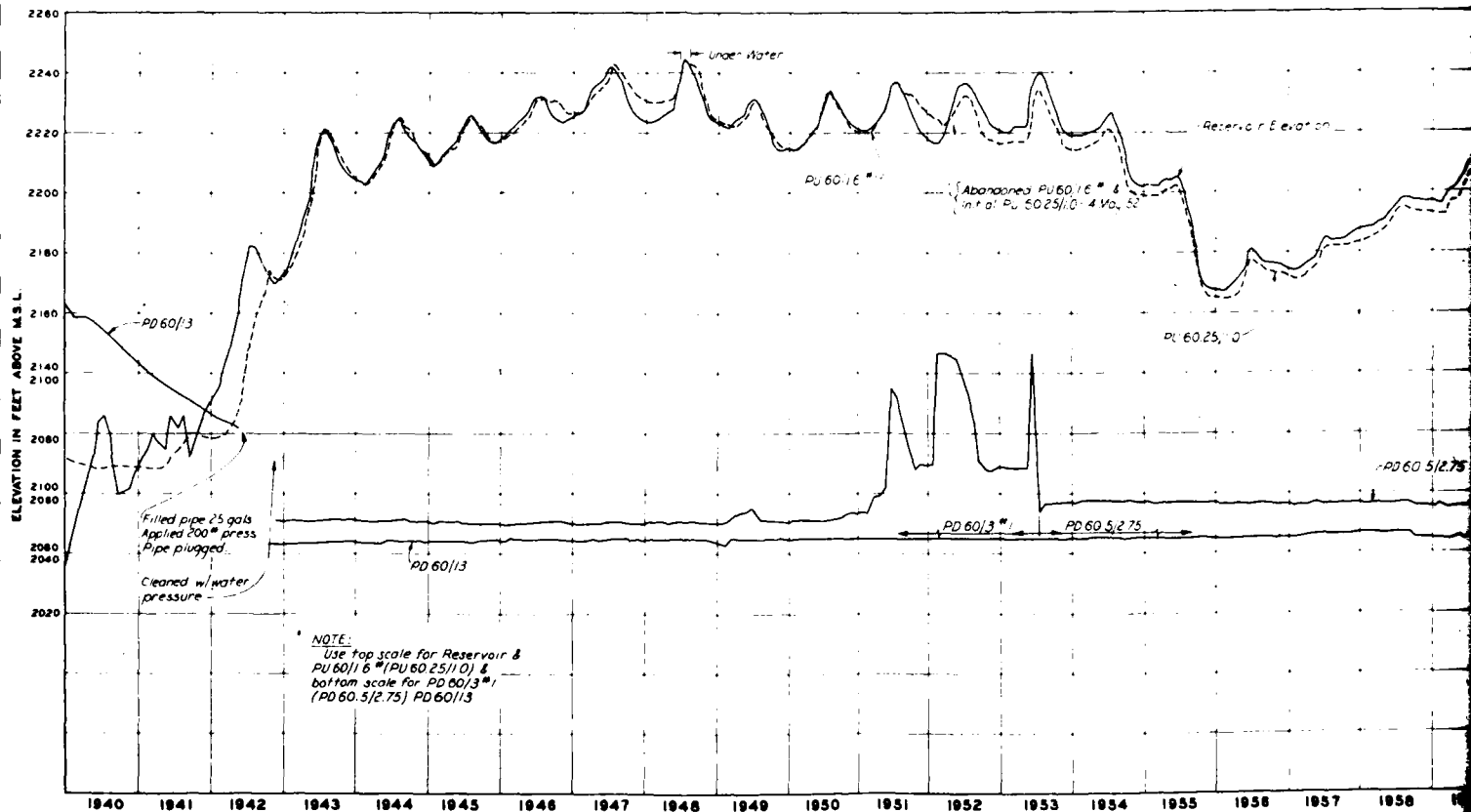
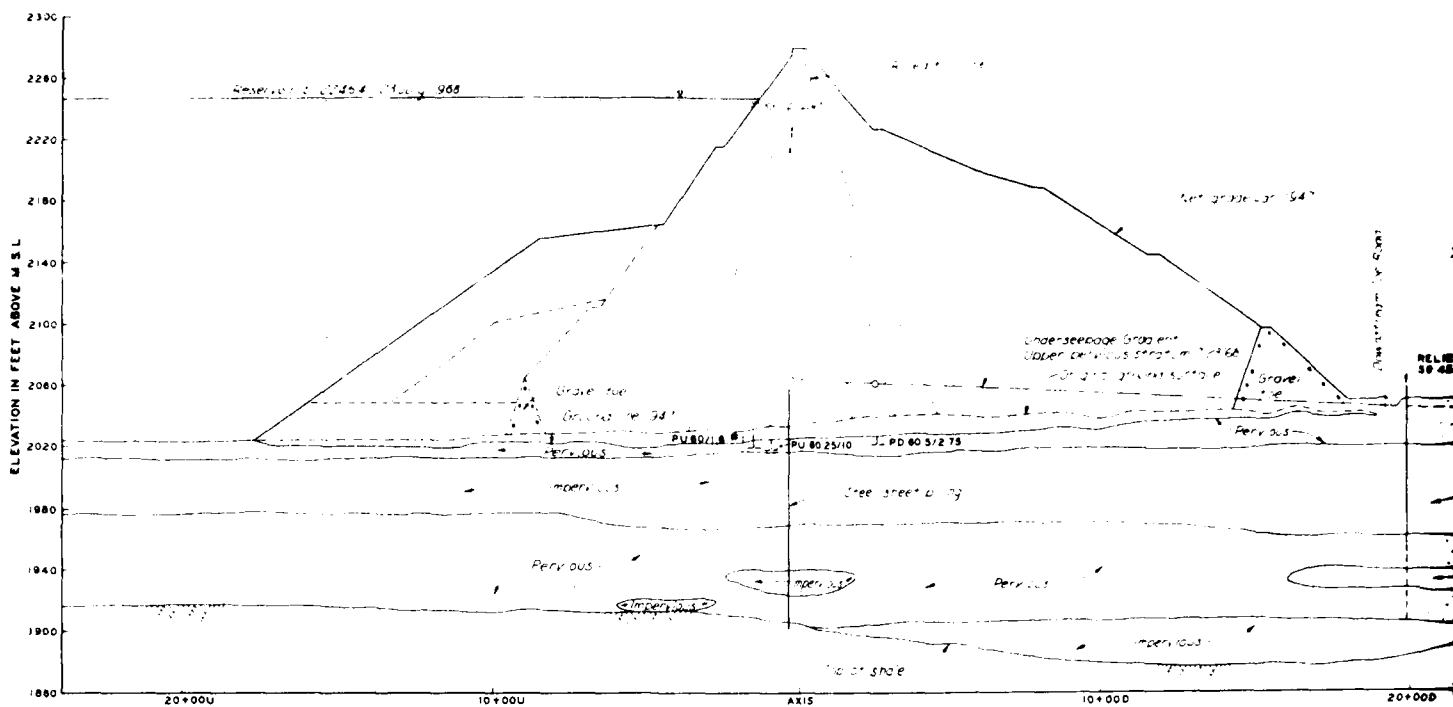
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4 METER A SHALLOW 4 METER
PC35/65 4 METER A SHALLOW 4 METER
4 METER A SHALLOW 4 METER

KEY PLAN

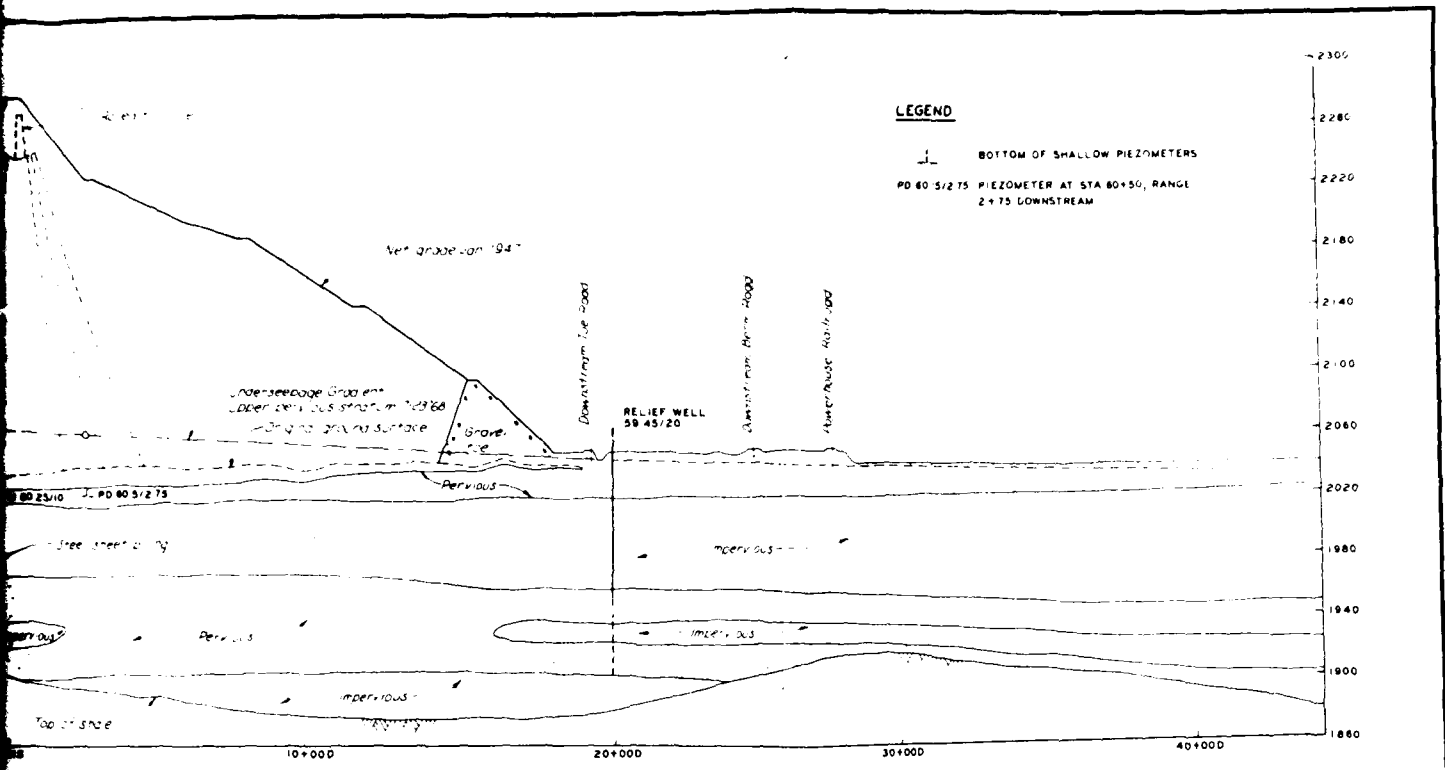
DATE		DESCRIPTION		MADE	APPROVED
		REV. 6.6.69			
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DESIGNED BY		MISSOURI RIVER			
DRAWN BY		FORT PECK LAKE, MONTANA			
CHECKED BY		UNDERSEEPAGE STUDIES			
SUBMITTED BY		STATION 35+00			
UNIT		STUDY OF HEAD LOSS THROUGH			
SECTION		SHEET PILING ABOVE CLAY STRATUM			
APPROVE		APPROVED		DATE	
SHEET		SHEET TRANSMISSION BY _____		SHEET NO.	
APPROVED		SHEET NO. 500000		SHEET NO.	
		SHEET NO.		SHEET NO.	

THIS PLAN ACCOMPANIES COMTECT NO
MODIFICATION NO

TION NO
 FORT PECK DAM AND RESERVOIR EMBANKMENT CRITERIA AND PERFORMANCE RECORD PLATE 7-44

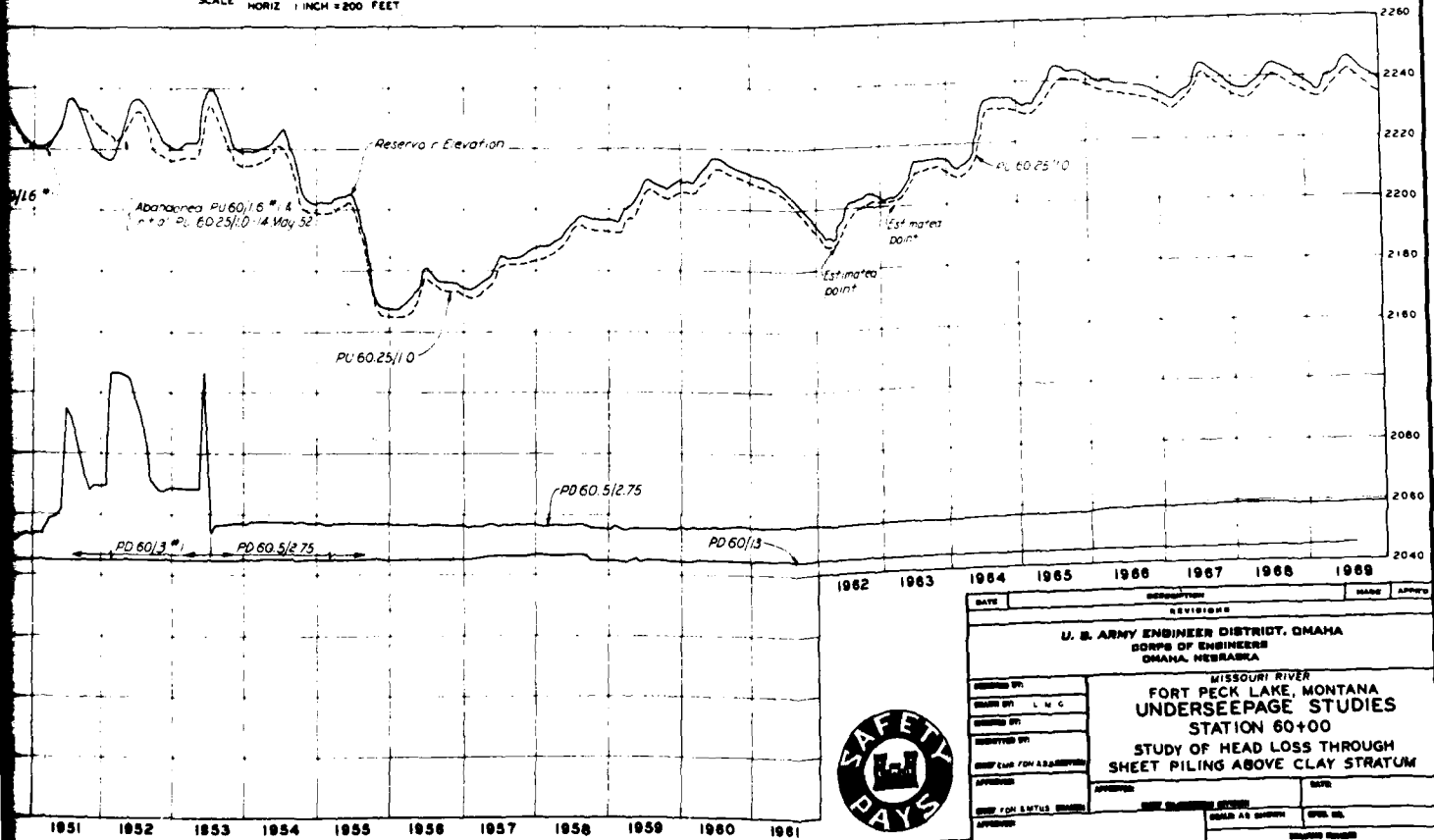


FORT PECK DAM AND RESERVOIR



SECTION - STA. 60+00

SCALE VERT. 1 INCH = 40 FEET
HORIZ. 1 INCH = 200 FEET



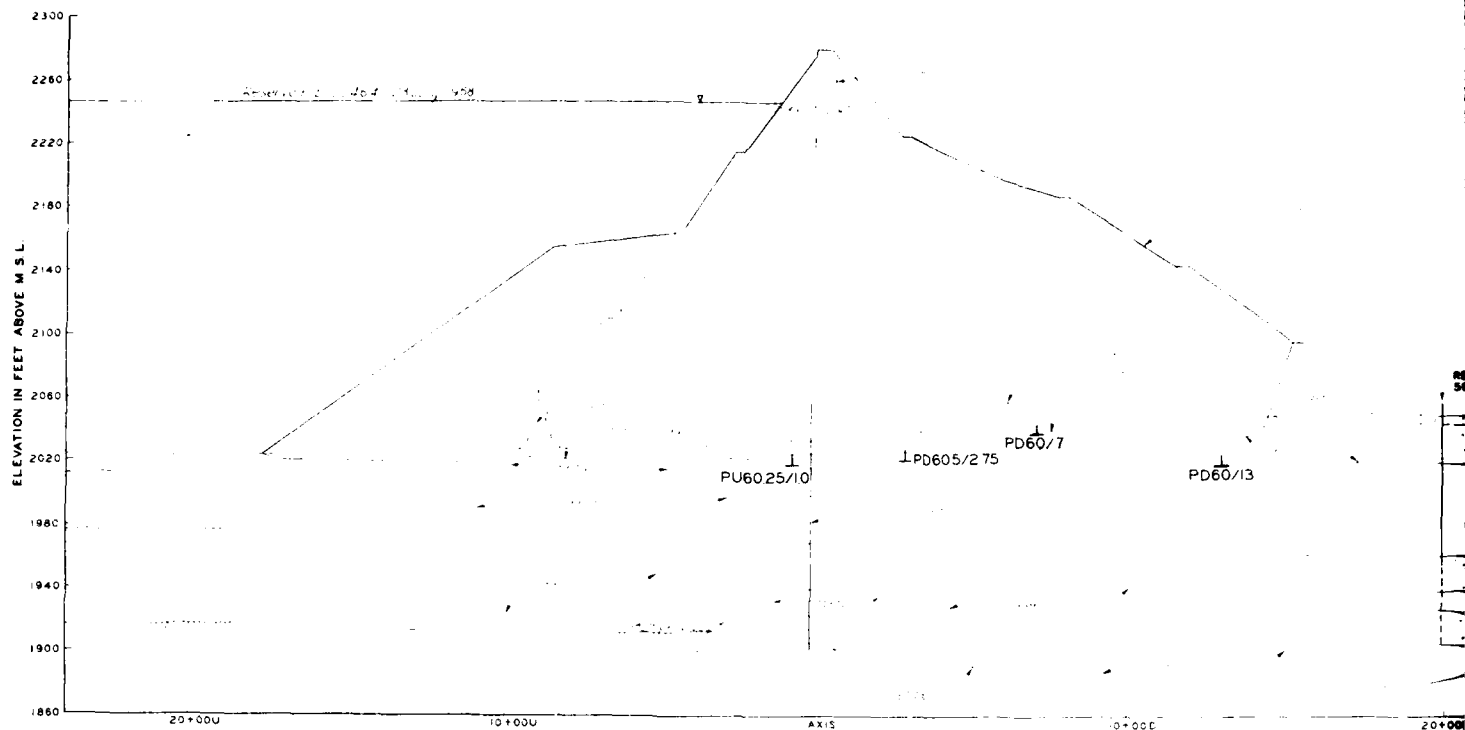
THIS PLAN ACCOMPANIES CONTRACT NO. MODIFICATION NO.

DATE	REVISIONS	NAME	APPROV
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA			
MISSOURI RIVER FORT PECK LAKE, MONTANA UNDERSEPAGE STUDIES STATION 60+00 STUDY OF HEAD LOSS THROUGH SHEET PILING ABOVE CLAY STRATUM			
DESIGNED BY	CHECKED BY	APPROVED	DATE
DRAWN BY	REVIEWED BY	APPROVED	DATE
INSTRUMENTED BY	APPROVED	APPROVED	DATE
APPROVED	APPROVED	APPROVED	DATE

FORT PECK DAM AND RESERVOIR

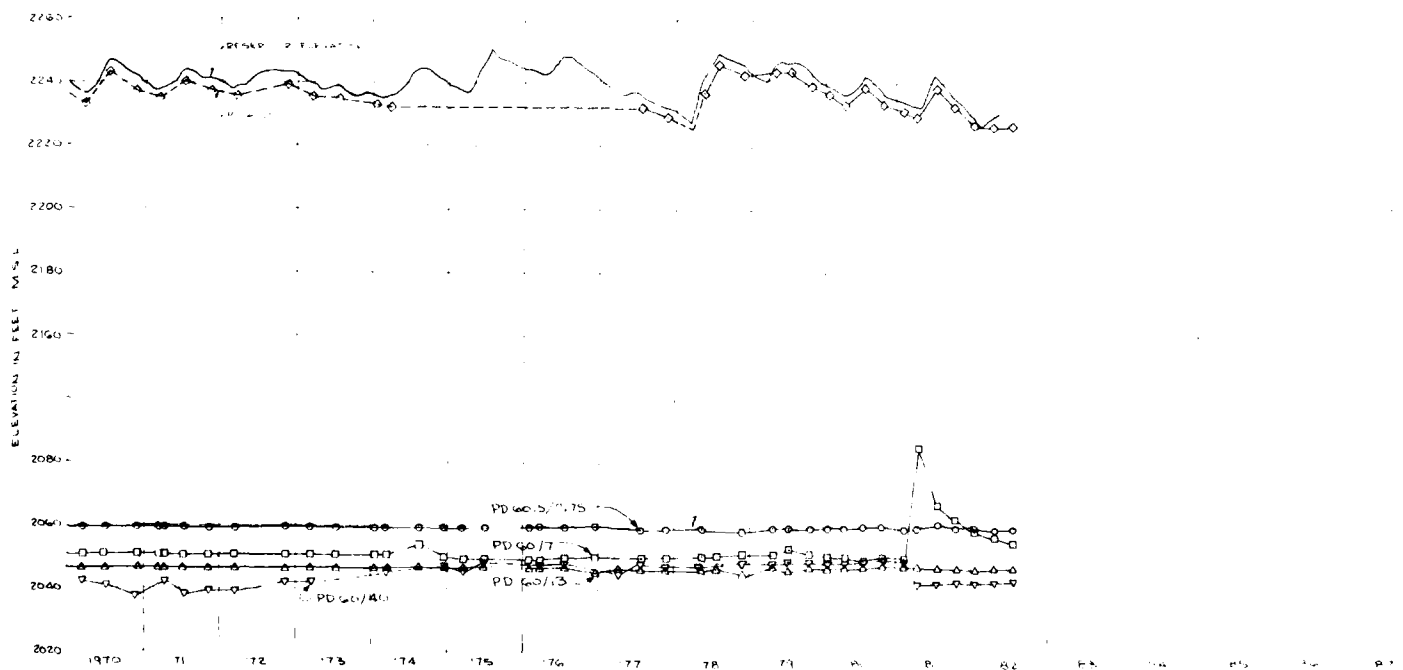
EMBANKMENT CRITERIA AND PERFORMANCE REPORT

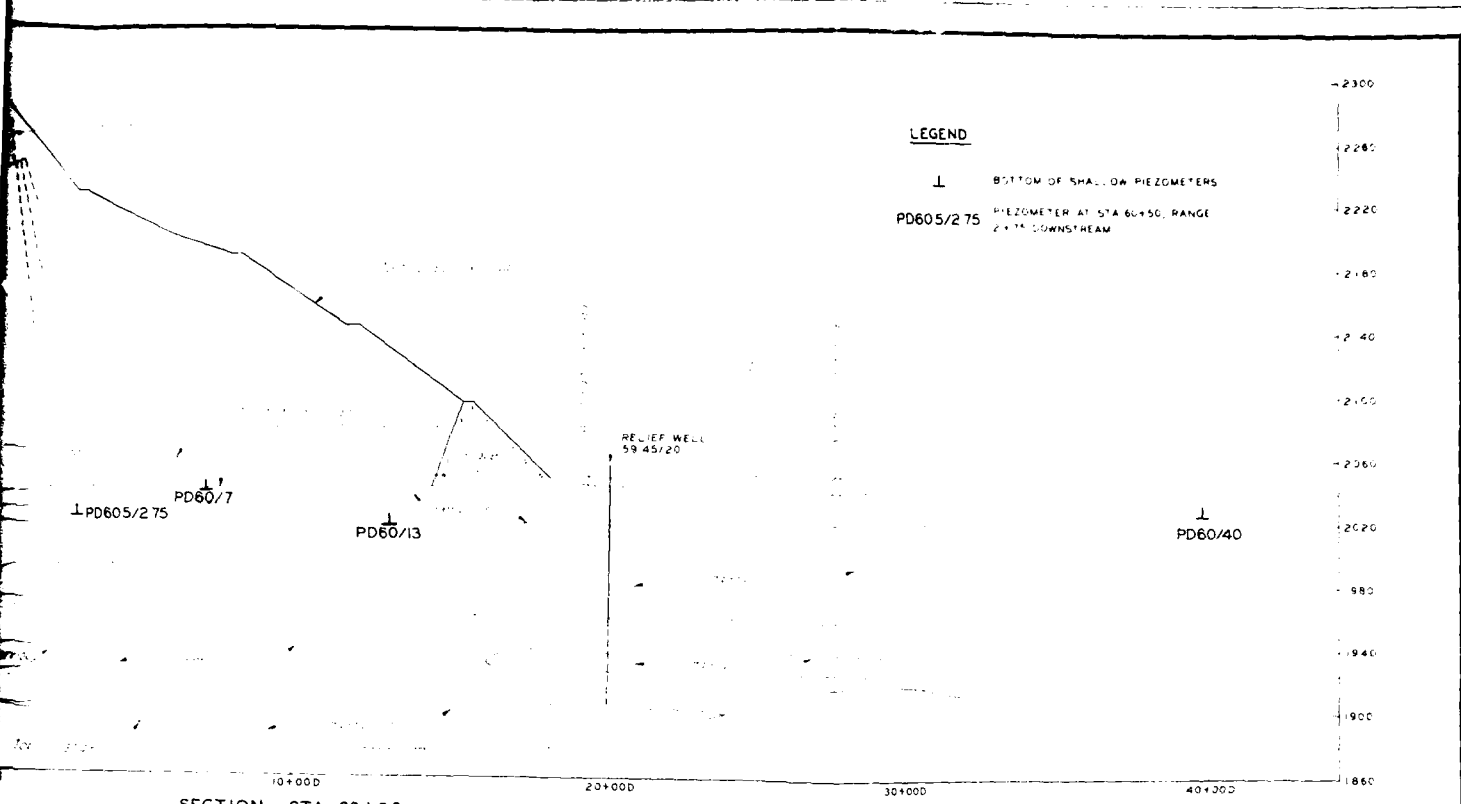
PLATE 7-45



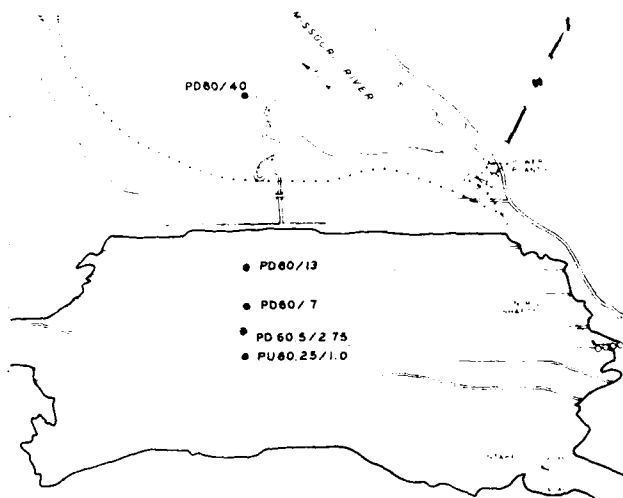
SECTION - STA 60+00

SCALE VERT 1 INCH = 40 FEET
HORIZ 1 INCH = 200 FEET





SECTION - STA 60+00
 SCALE VERT 1 INCH = 40 FEET
 HORIZ 1 INCH = 200 FEET



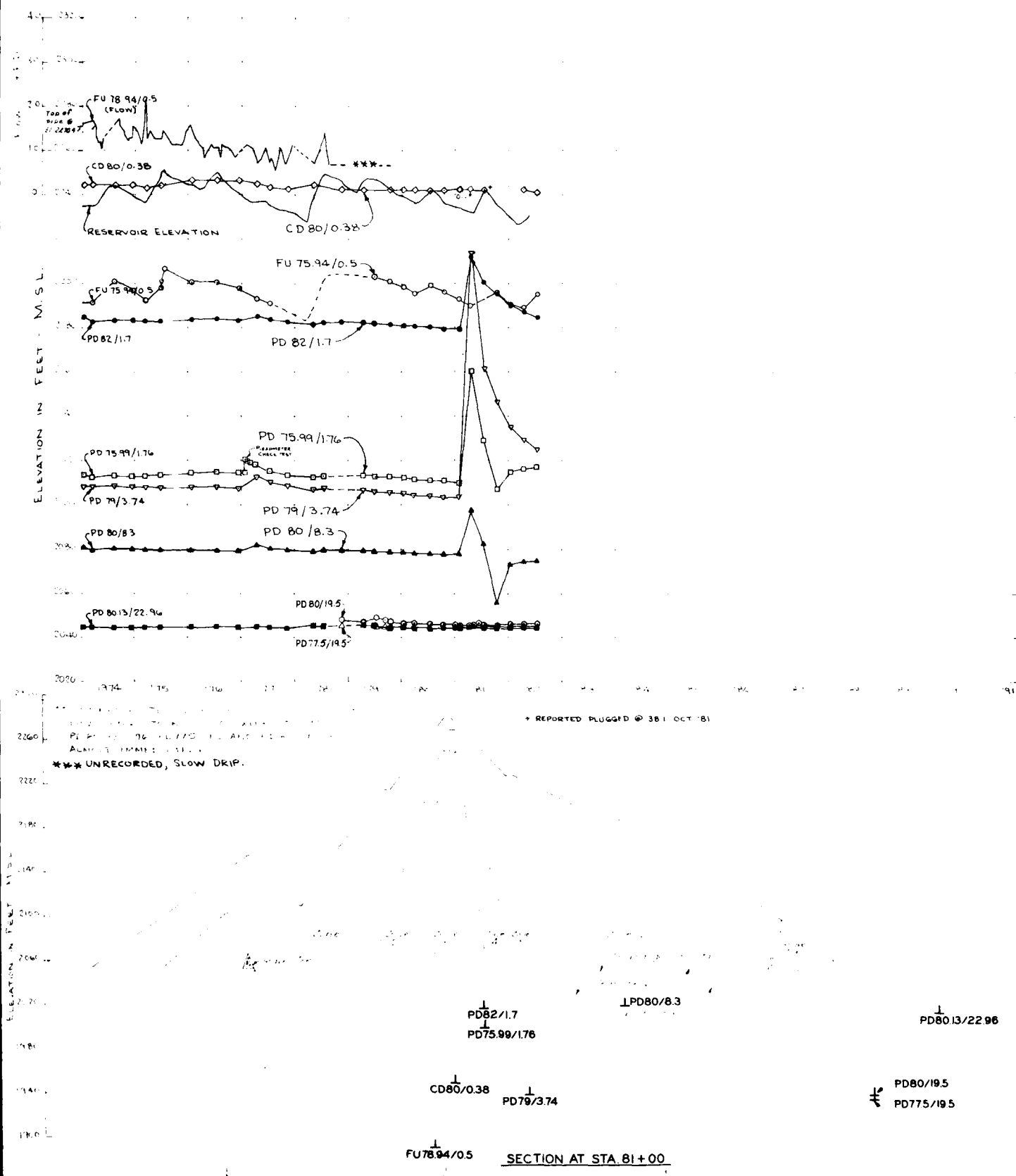
B.1 B.2 B.3 B.4 B.5 B.6 B.7 B.8 B.9 B.10

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 BE USED WITHIN THE ORIGINAL SCALE.

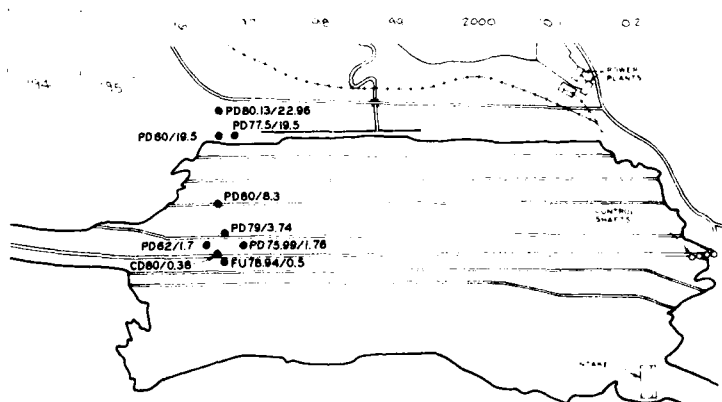


THIS PLAN ACCOMPANIES CONTRACT NO.
 MODIFICATION NO.

DATE		DESCRIPTION		MADE	APPROVED
REVISIONS					
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
DESIGNED BY:		CHECKED BY:		DRAWN BY:	
DATE:		DATE:		DATE:	
APPROVED BY:		APPROVED BY:		APPROVED BY:	
DATE:		DATE:		DATE:	
SCALE AS SHOWN		SHEET NO.		SHEET NO.	
SHEET NO.		SHEET NO.		SHEET NO.	



OCT '81



KEY PLAN

PD80.13/22.96

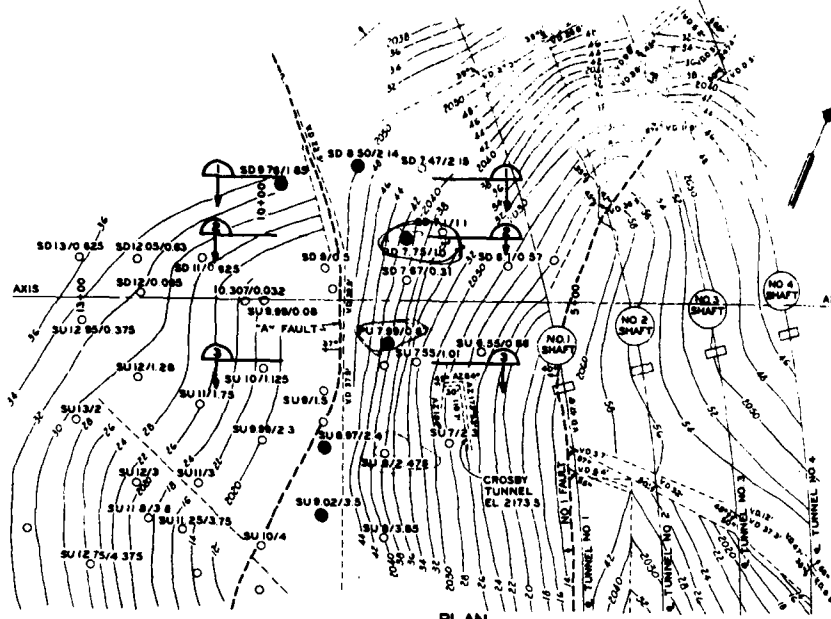
PD80/19.5
PD775/19.5

THIS DRAWING HAS BEEN REDUCED TO
THREE-EIGHTHS THE ORIGINAL SCALE.

THIS PLAN ACCOMPANIES CONTRACT NO.
MODIFICATION NO.



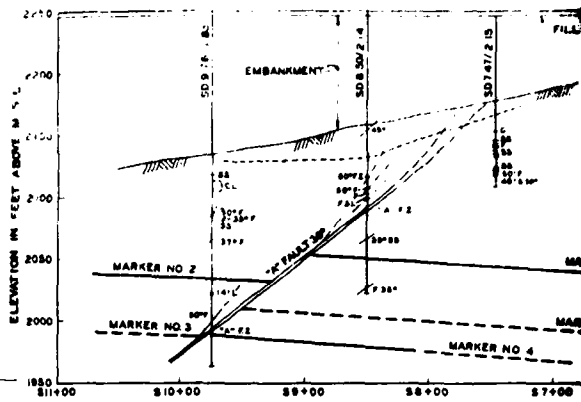
DATE		DESCRIPTION		MADE	APPROVED
REVISIONS					
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
DESIGNED BY:		MONITOR W. J. JEN			
DRAWN BY:		FORT PECK LAKE MONTANA			
CHECKED BY:		LEFT ABUTMENT			
SUBMITTED BY:		PORE PRESSURE PIEZOMETERS			
SHEET		SECTION		FOUNDATION SHALE	
RECORDED	APPROVED	SHEET ENGINEERING DIVISION		DATE	
APPROVED	DESIGN	SCALE AS SHOWN		SHEET NO.	
SHEET		DRAWING NUMBER		SHEET	
SOL. S. E. SMITH ENGINEER					



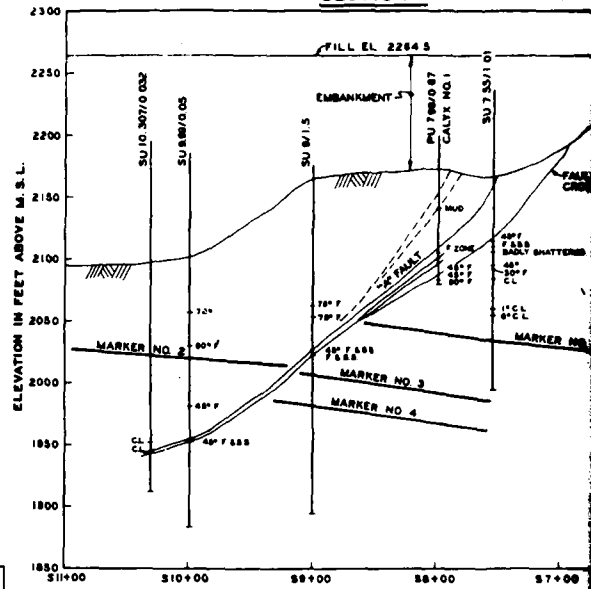
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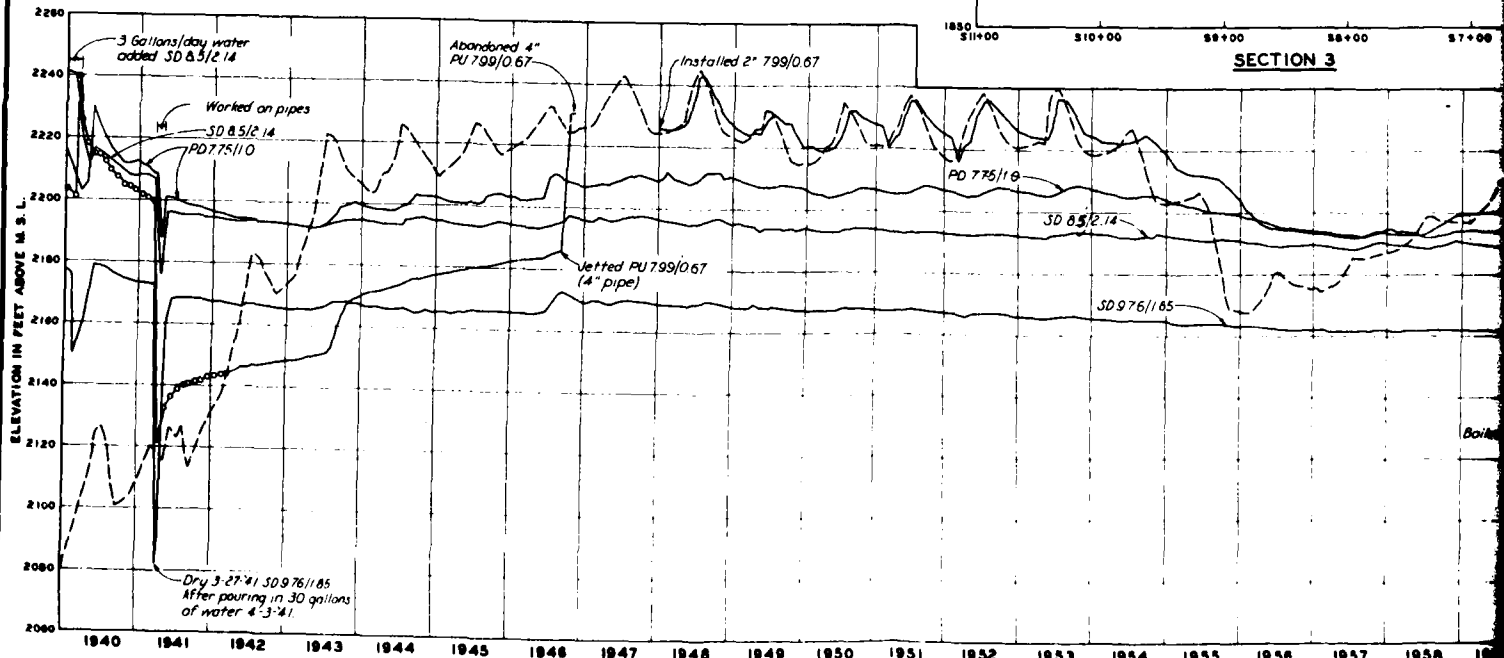
- STRIKE AND DIP
- VD VERTICAL DISPLACEMENT
- SD SLIDE AREA BORINGS DOWNSTREAM
- SU SLIDE AREA BORINGS UPSTREAM
- - - FAULT
- SPECIAL BORINGS FOR "A" FAULT OBSERVATION
- EXPLORATORY BORINGS

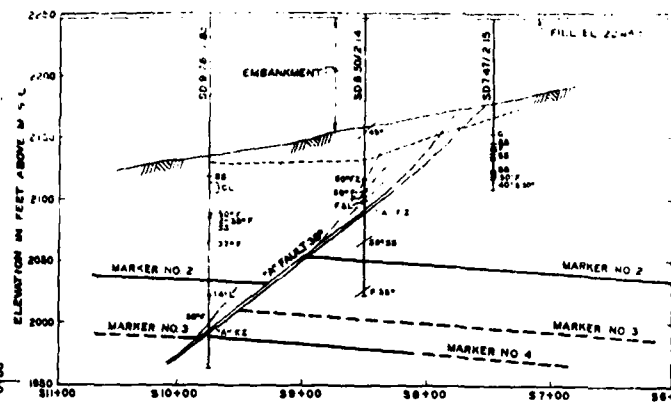


SECTION I

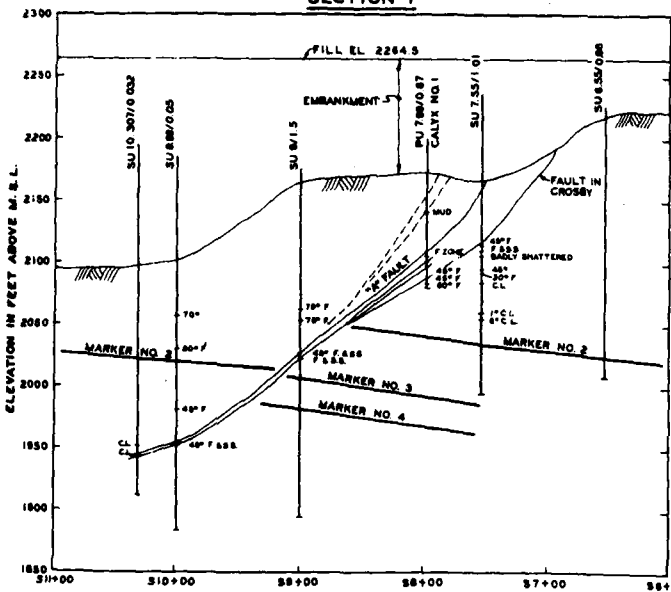


SECTION 3

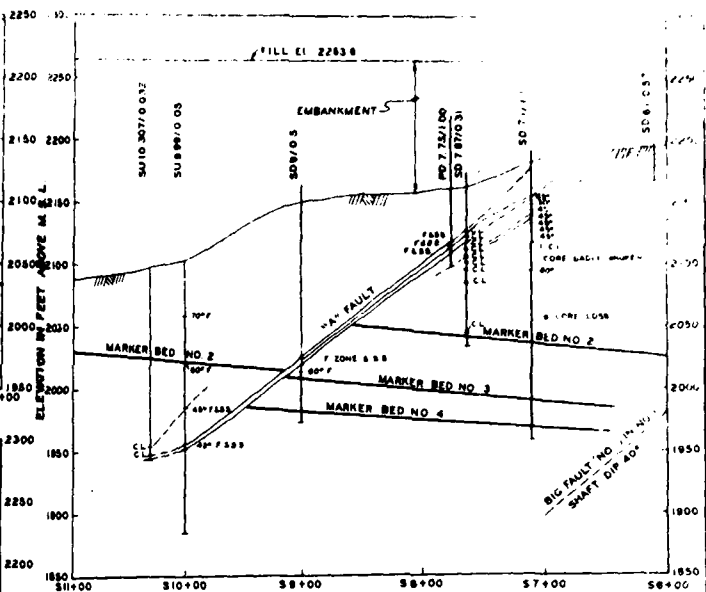




SECTION 1



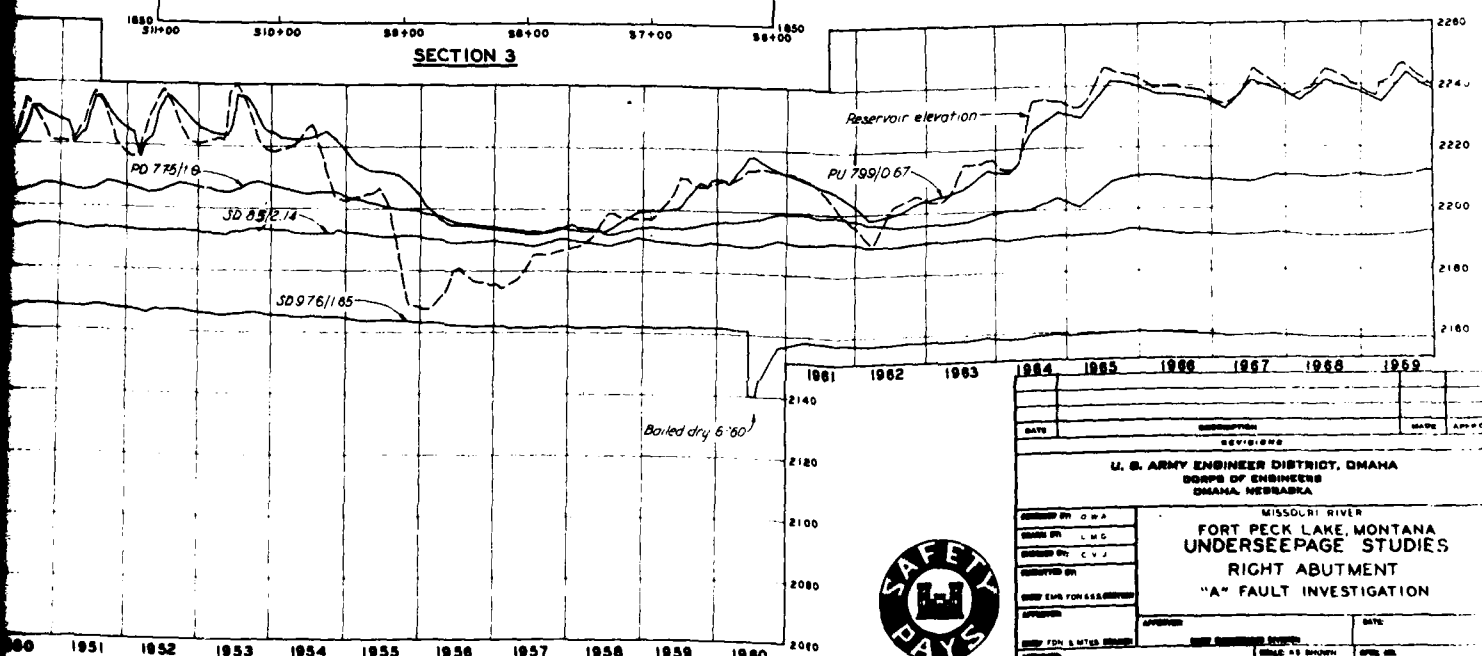
SECTION 2



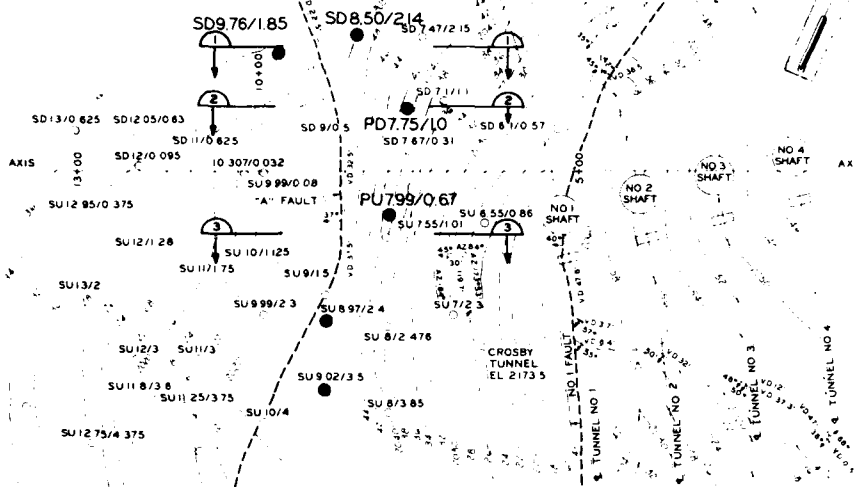
SECTION 3

LEGEND:

- S.S. SLICKENSIDES
- C.L. CORE LOSS
- SH. SHATTERED
- 45° F. FAULT PLANE
- H.W. HANGING WALL
- F & S.S. FAULT PLANE WITH SLICKENSIDES
- MARKER NO. MARKER BEDS OF BENTONITE

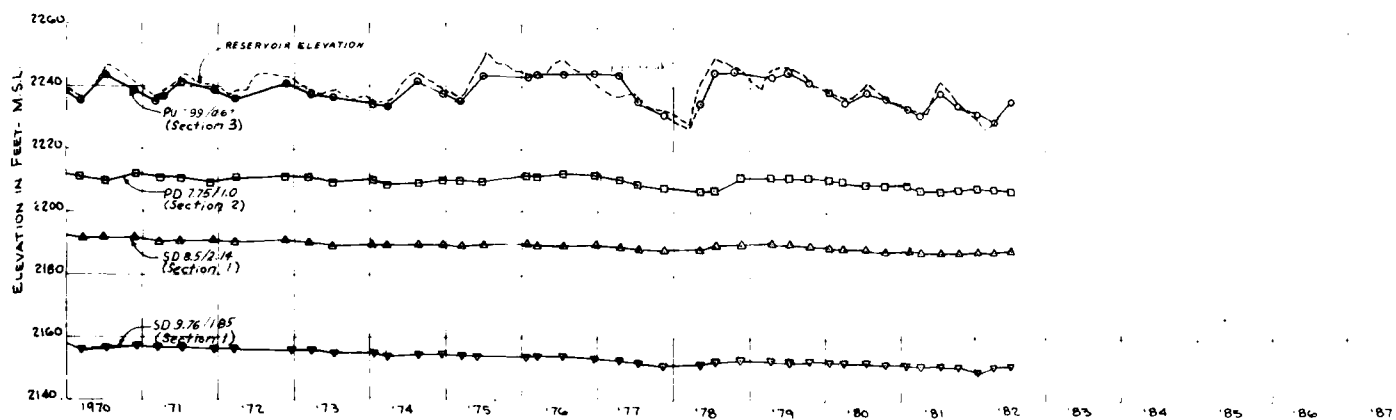
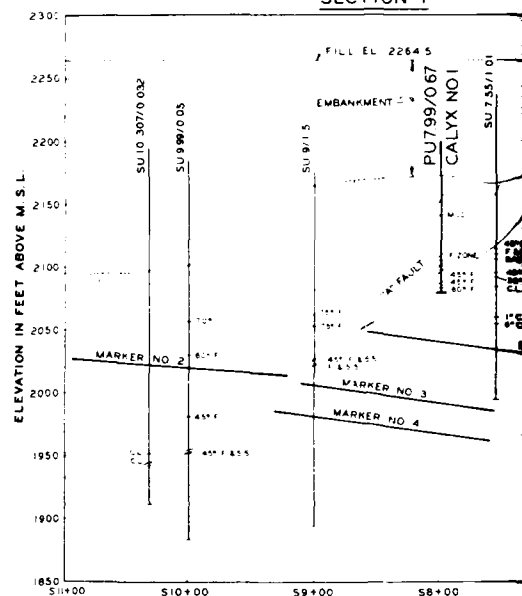
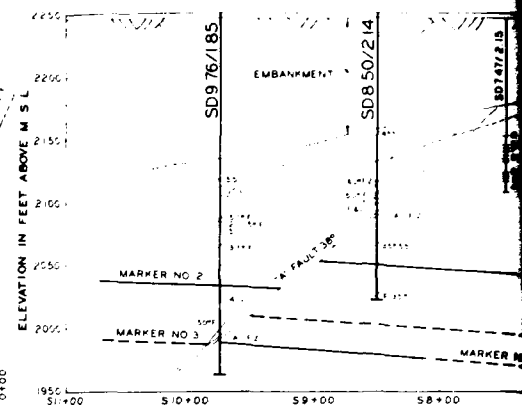


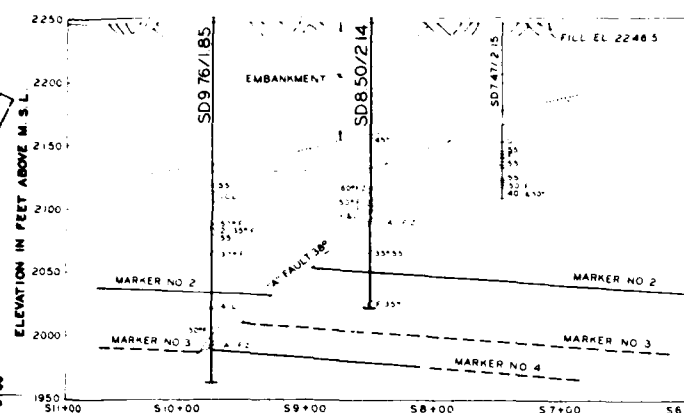
U. S. ARMY ENGINEER DISTRICT, OMAHA	
GROUP OF ENGINEERS	
OMAHA, NEBRASKA	
MISSOURI RIVER	
FORT PECK LAKE, MONTANA	
UNDERSEPAGE STUDIES	
RIGHT ABUTMENT	
"A" FAULT INVESTIGATION	
APPROVED BY: OMA	DATE:
DESIGNED BY: LMG	DATE:
CHECKED BY: CVJ	DATE:
CONSTRUCTED BY:	DATE:
REVIEW FOR ASSESSMENT:	DATE:
REVIEW FOR LATER STUDIES:	DATE:
APPROVED:	DATE:
REVIEWED:	DATE:
REVIEWED:	DATE:
REVIEWED:	DATE:



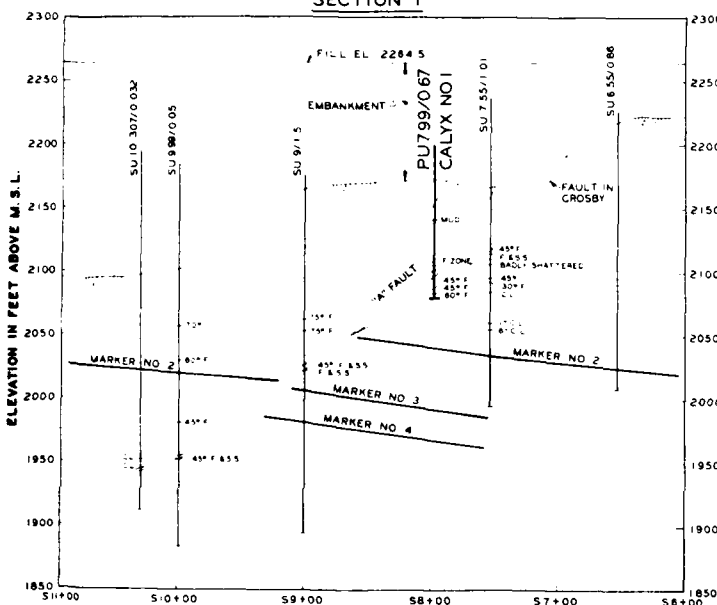
LEGEND:

- STRIKE AND DIP
- VD VERTICAL DISPLACEMENT
- SD SLIDE AREA BORINGS DOWNSTREAM
- SU SLIDE AREA BORINGS UPSTREAM
- FAULT
- SPECIAL BORINGS FOR "A" FAULT OBSERVATION
- EXPLORATORY BORINGS

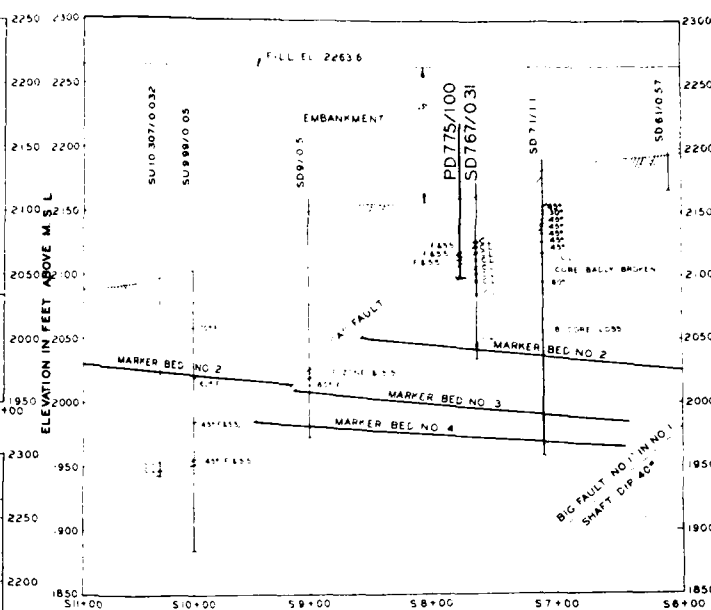




SECTION 1



SECTION 3



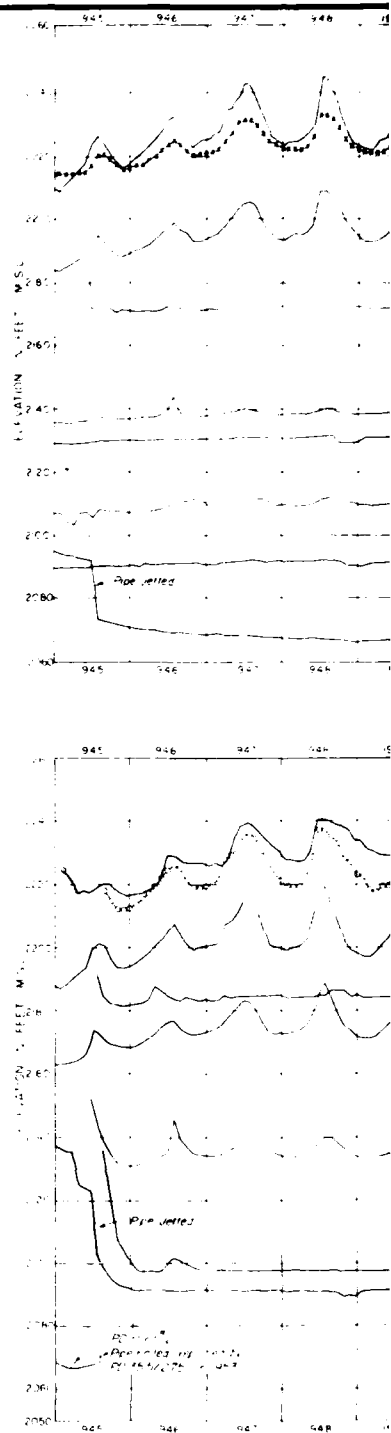
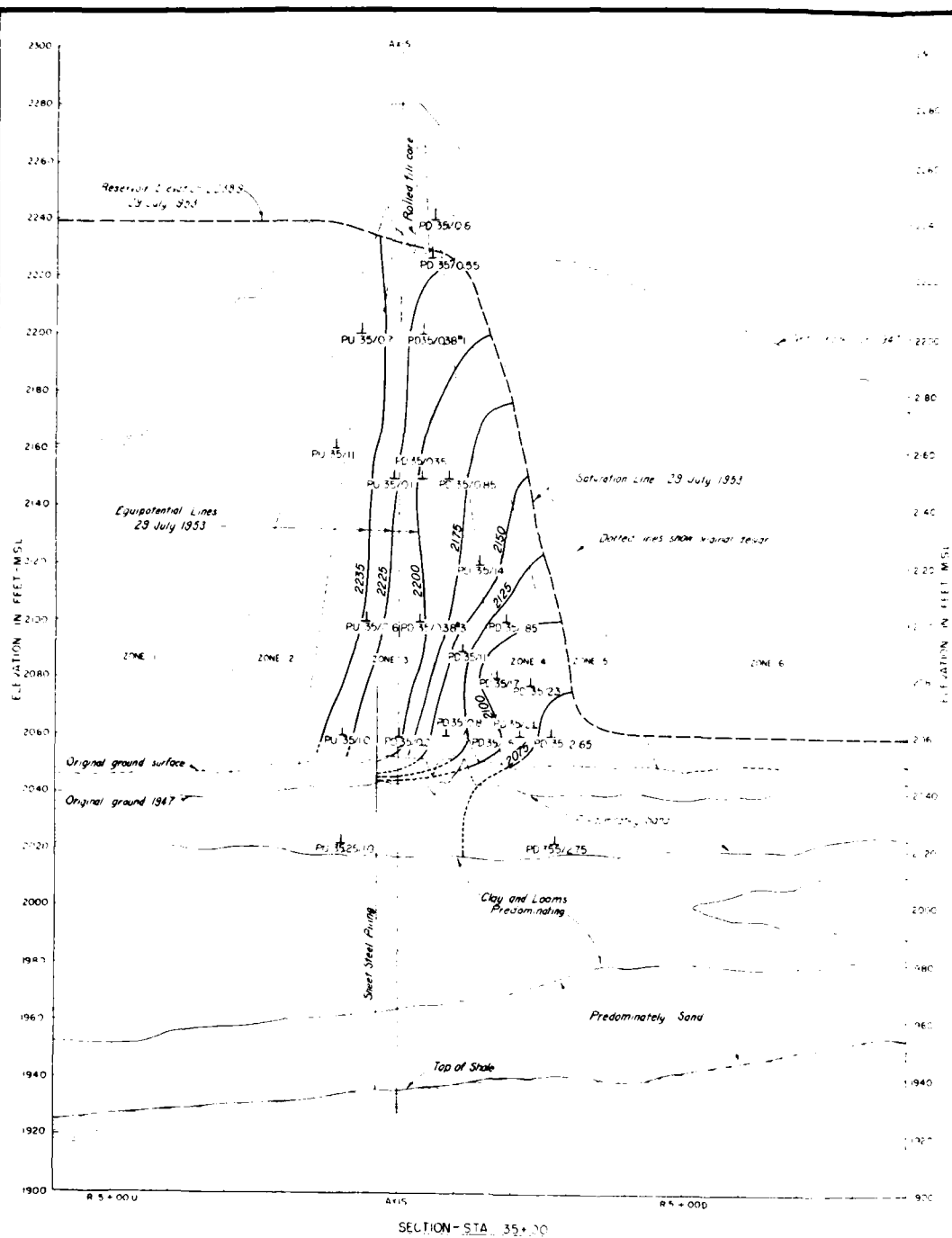
SECTION 2

LEGEND

- SS SLICKENSIDES
- CL CORE LOSS
- SH SHATTERED
- 45° F FAULT PLANE
- HW HANGING WALL
- F & SS FAULT PLANE WITH SLICKENSIDES
- MARKER NO MARKER BEDS OF BENTONITE

U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA	
MISSOURI RIVER FORT PECK LAKE, MONTANA UNDERPAGE STUDIES RIGHT ABUTMENT PIEZOMETERS "A" FAULT INVESTIGATION	
DESIGNED BY:	DATE:
DRAWN BY:	SCALE: AS SHOWN
CHECKED BY:	APPROVED BY:
REVIEWED BY:	APPROVED BY:
DATE:	DATE:
BY:	BY:
APPROVED:	APPROVED:

THIS DRAWING HAS BEEN REDUCED TO
THREE-FIFTHS THE ORIGINAL SCALE.



AD-A123 609

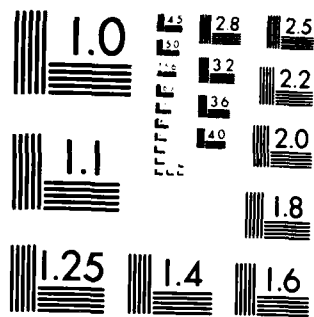
EMBANKMENT CRITERIA AND PERFORMANCE REPORT MISSOURI
RIVER FORT PECK LAKE MONTANA VOLUME III DRAWINGS(U)
ARMY ENGINEER DISTRICT OMAHA NEBR SEP 82

2/2

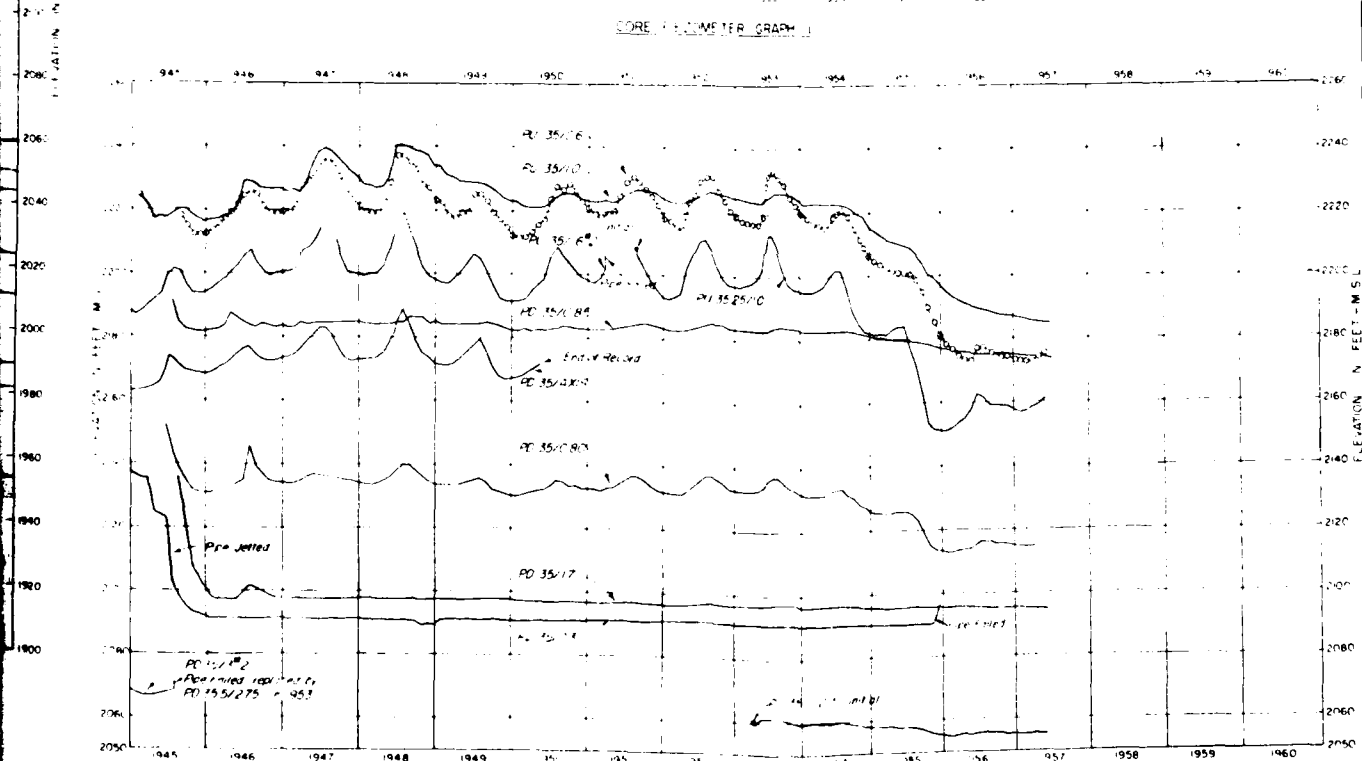
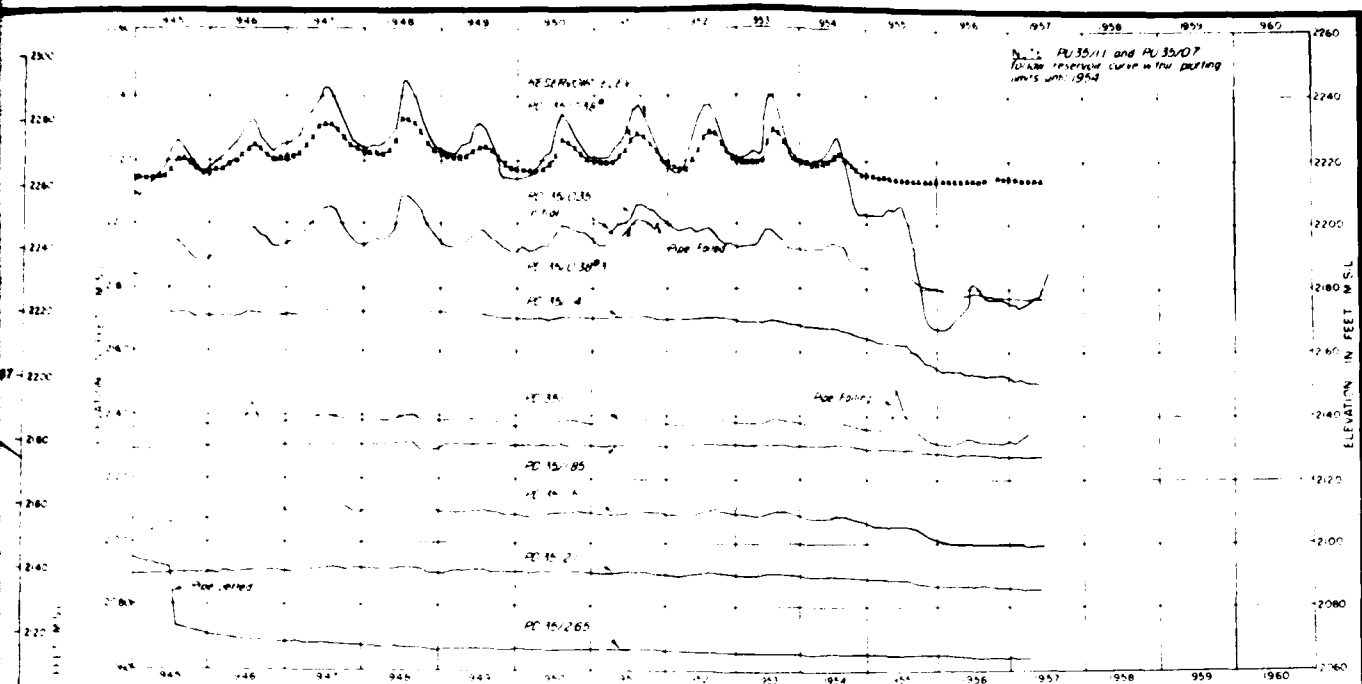
UNCLASSIFIED

F/G 13/13 NL

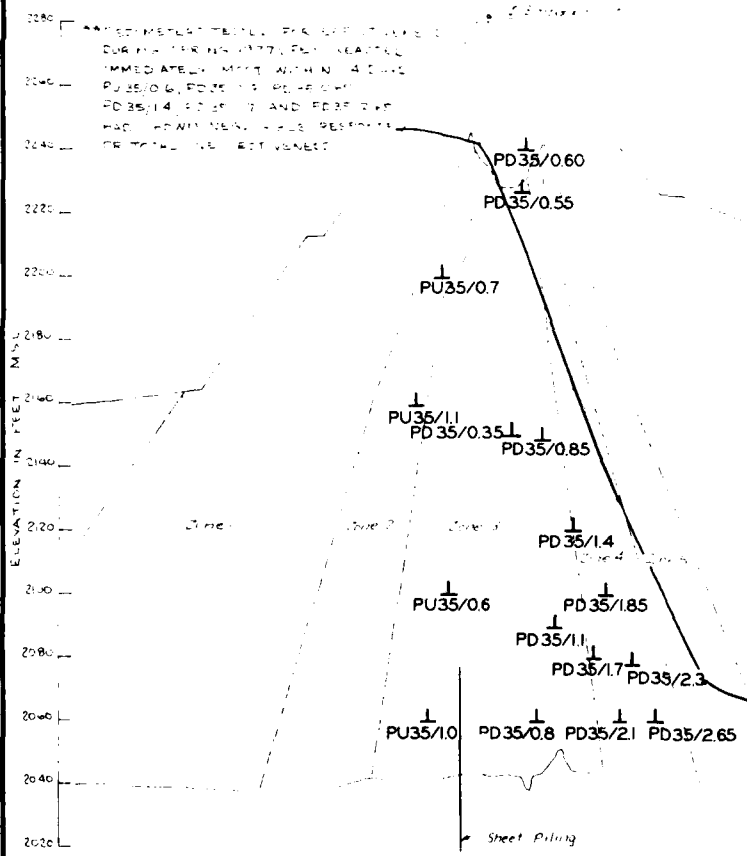
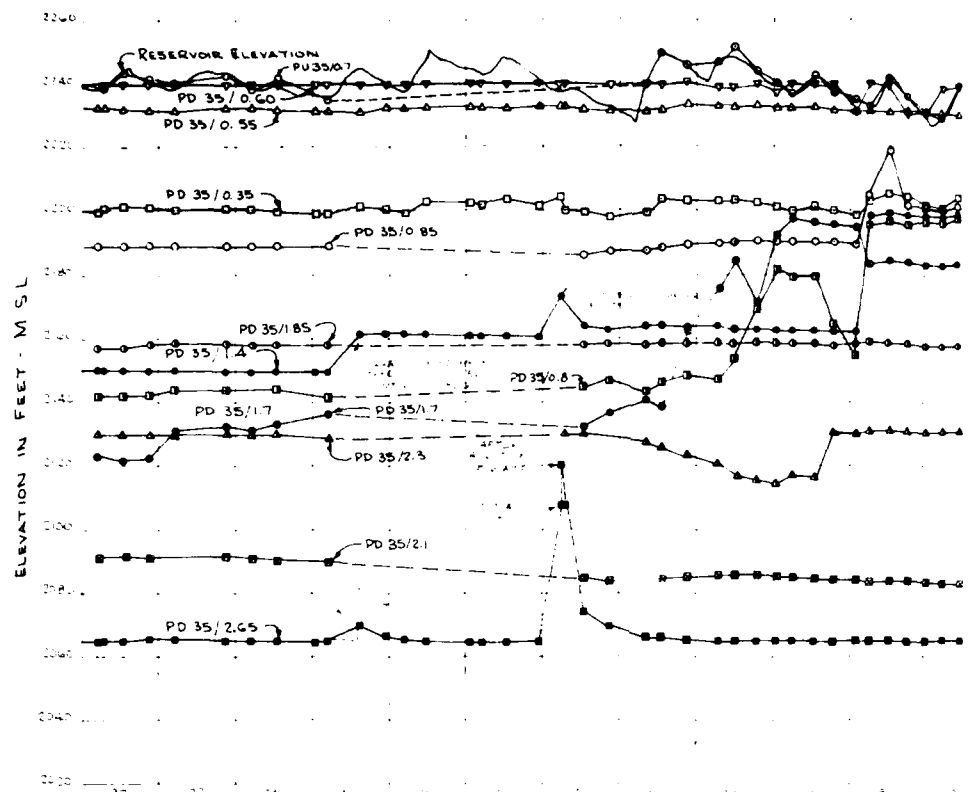
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DATE
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8-83
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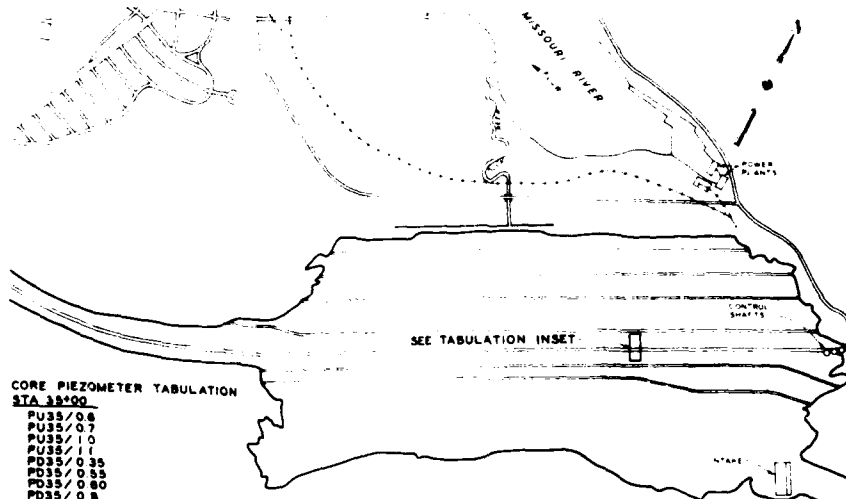


MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A



CORPS OF ENGINEERS, U. S. ARMY	
DIST. OF THE DISTRICT ENGINEER	
HARRISON DISTRICT	
MISSOURI RIVER	
FORT PECK DAM	
EQUIPOTENTIAL LINES FOR IMPERVIOUS CORE	
AND PIEZOMETER GRAPHS	
STA 35+00	
29 JULY 1953	
DATE	JUNE 1957
BY	AS SHOWN (1953)
6296 97-1-99	





CORE PIEZOMETER TABULATION
STA 35+00

PU35/0.6
PU35/0.7
PU35/1.0
PU35/1.1
PD35/0.35
PD35/0.55
PD35/0.80
PD35/0.9
PD35/0.85
PD35/1.1
PD35/1.4
PD35/1.7
PD35/1.85
PD35/2.1
PD35/2.3
PD35/2.85

KEY PLAN

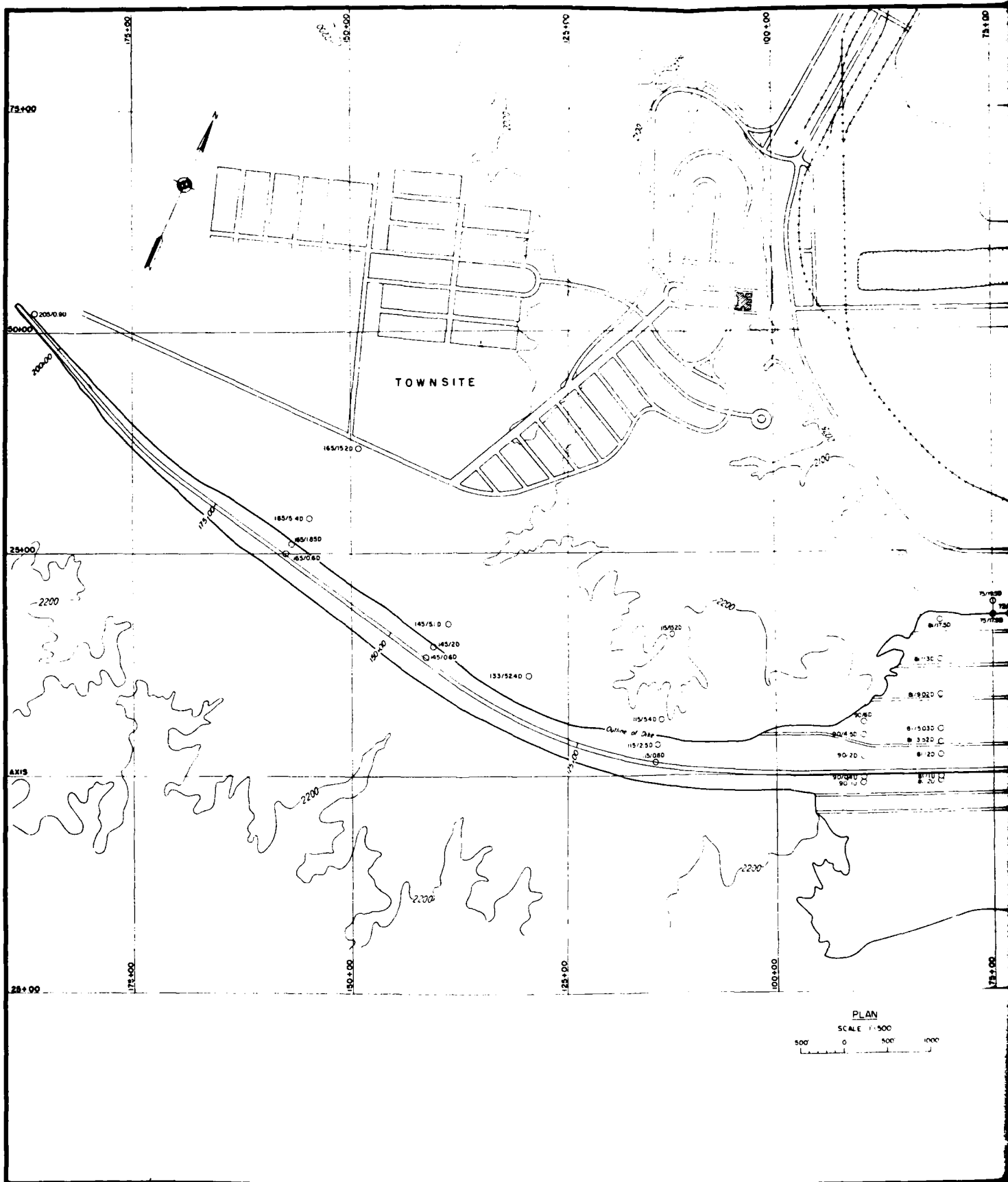
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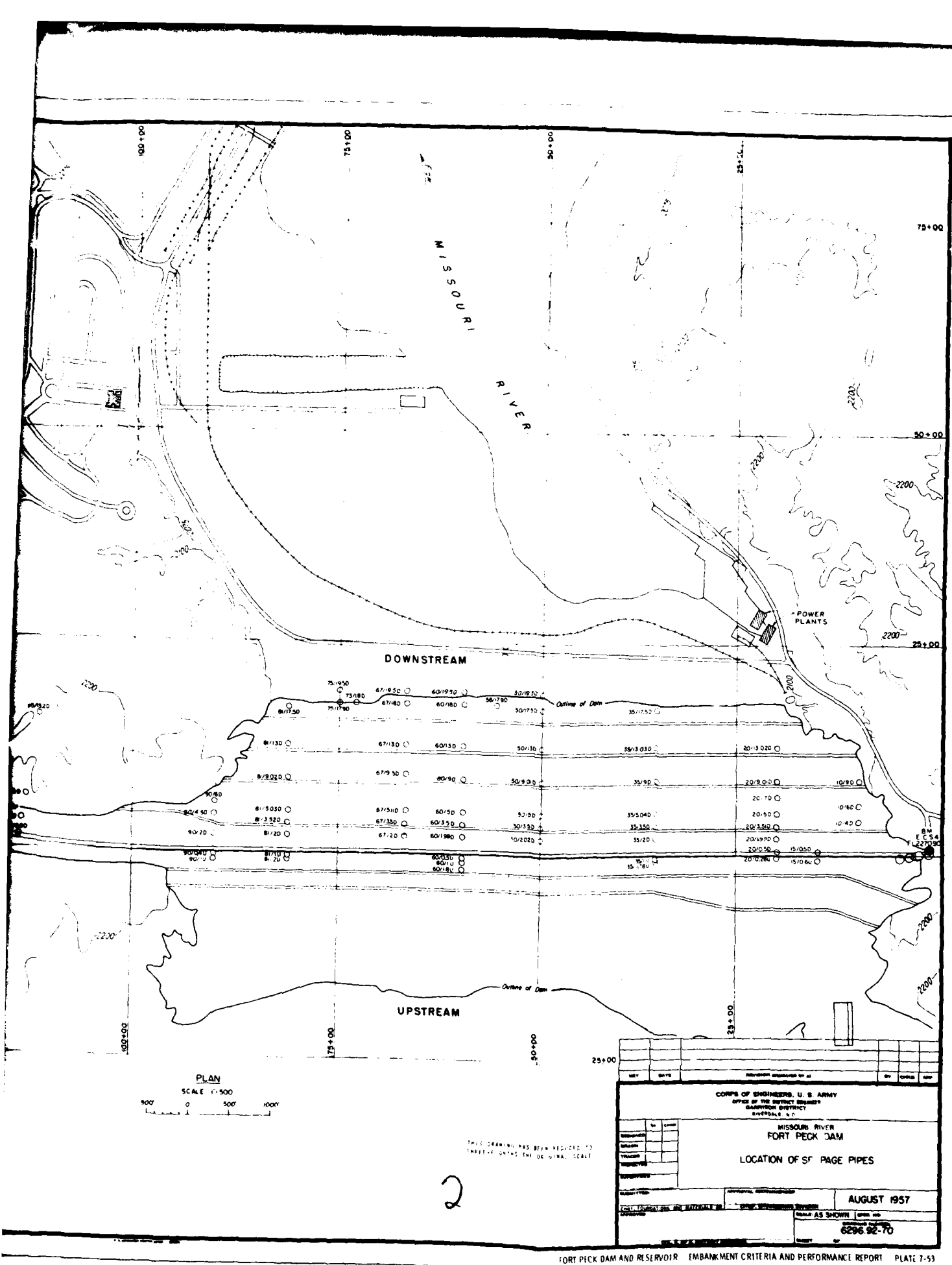
Photostatic developed from
 pipe instrumentation.
 Plate B-43.1

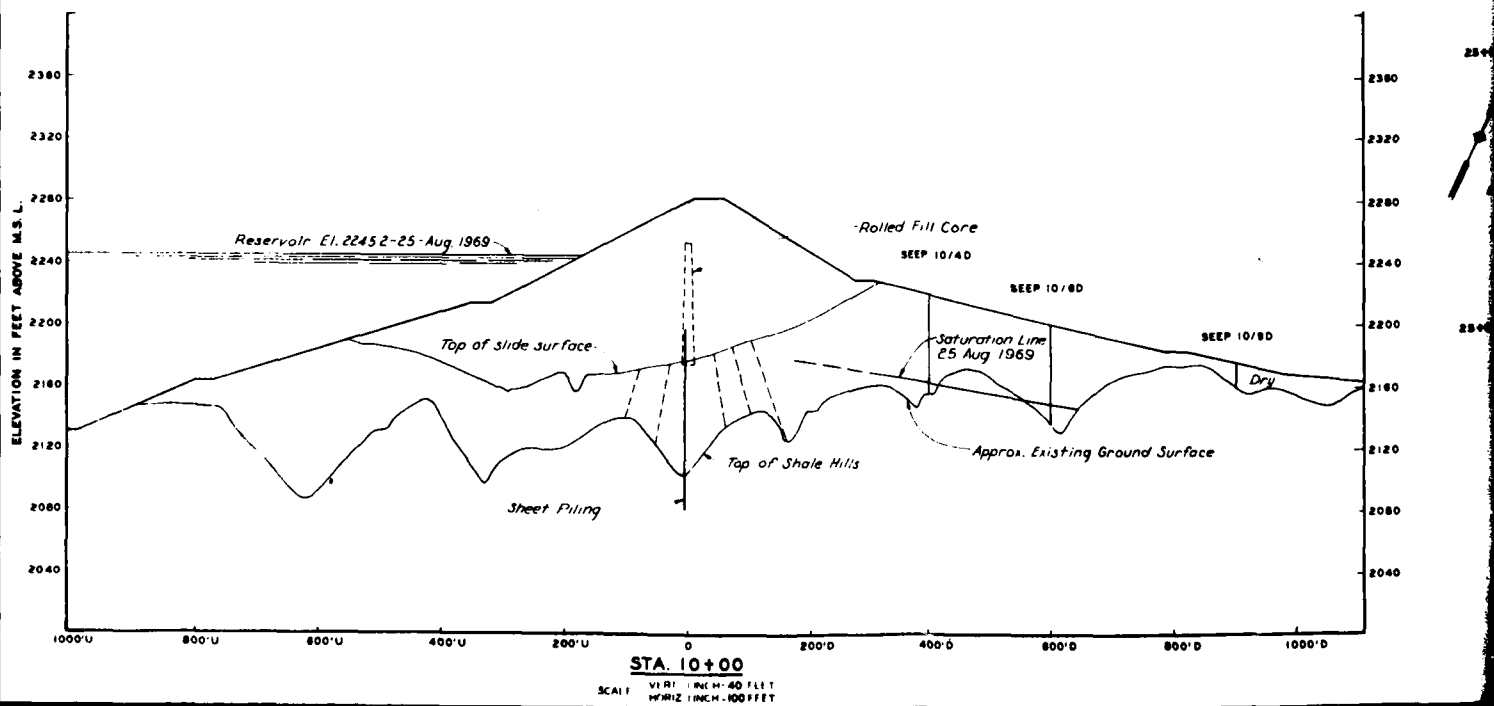
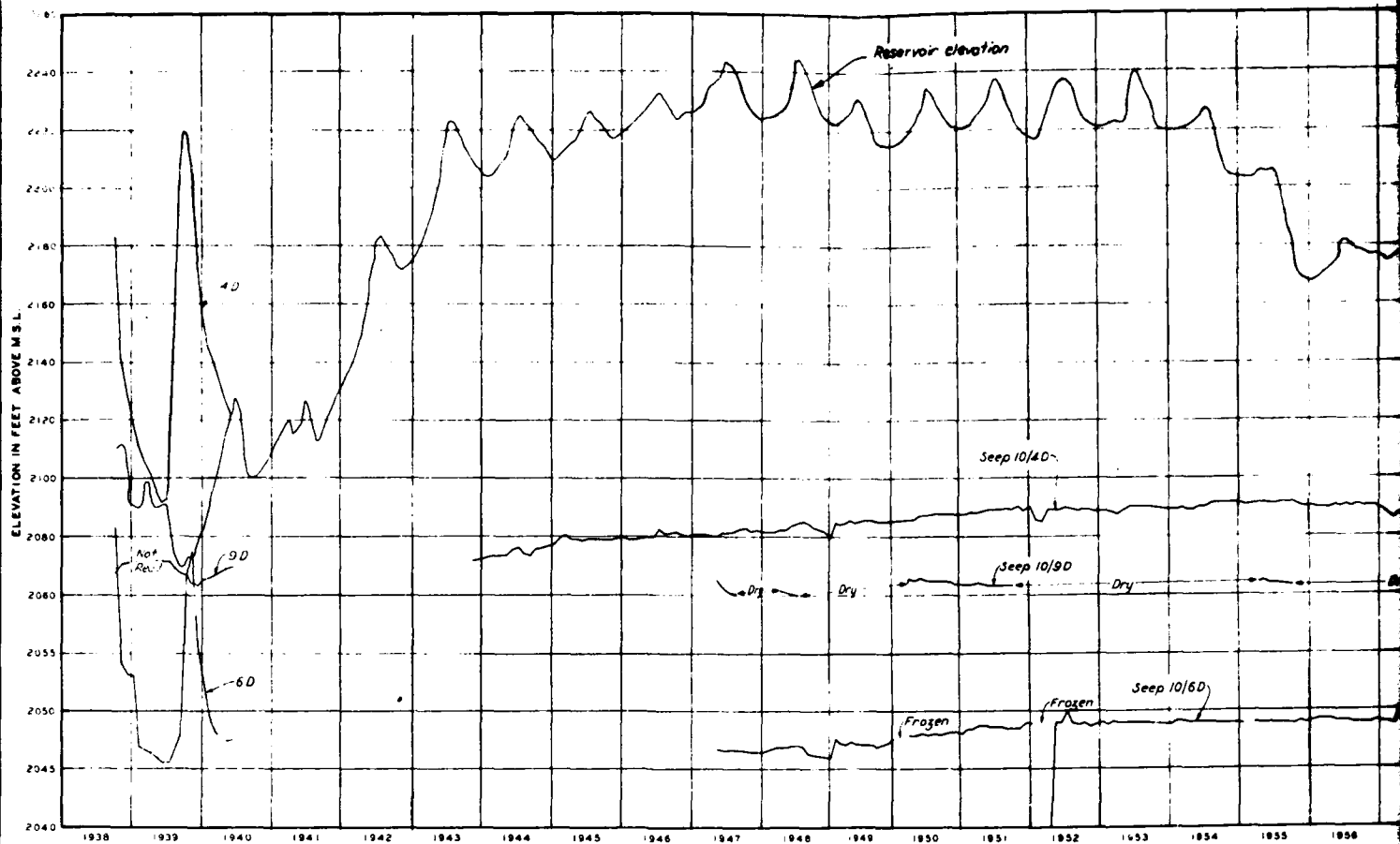


THIS PLAN ACCOMPANIES CONTRACT NO.
 MODIFICATION NO.

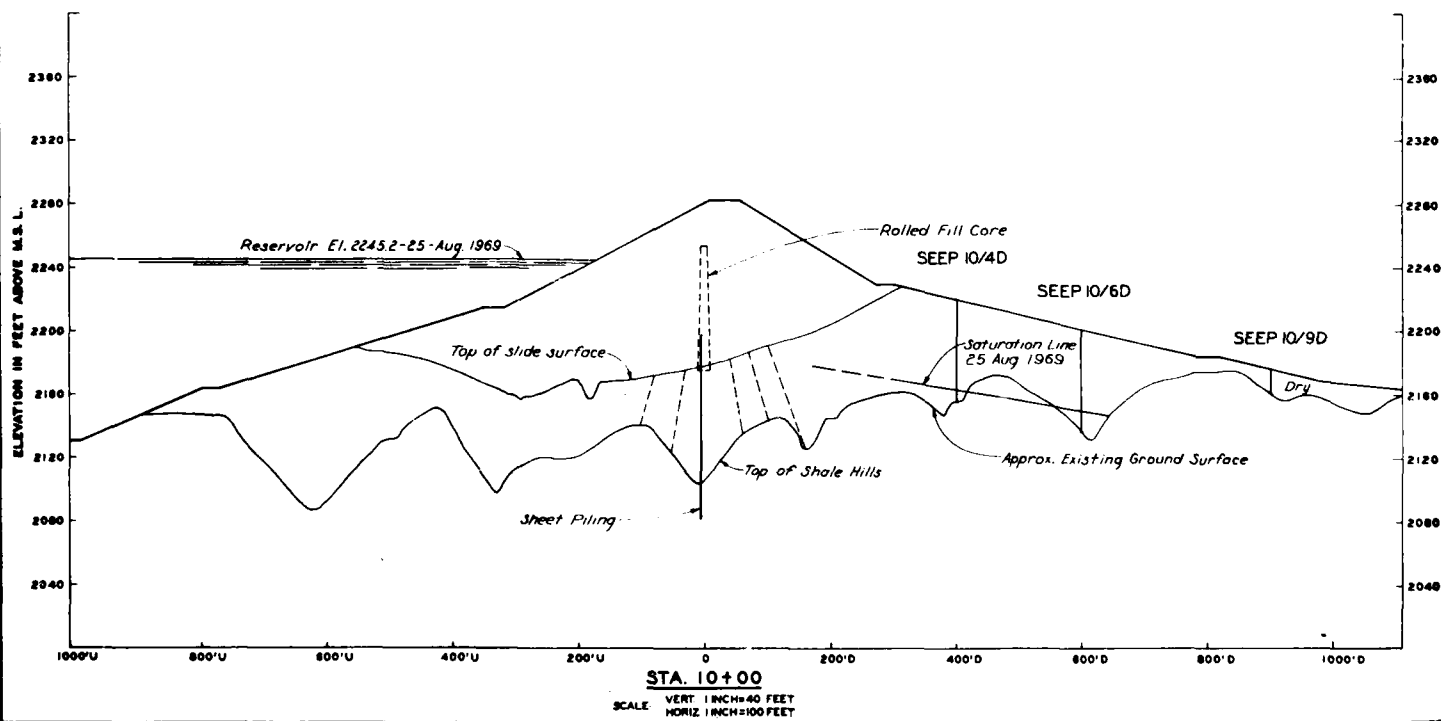
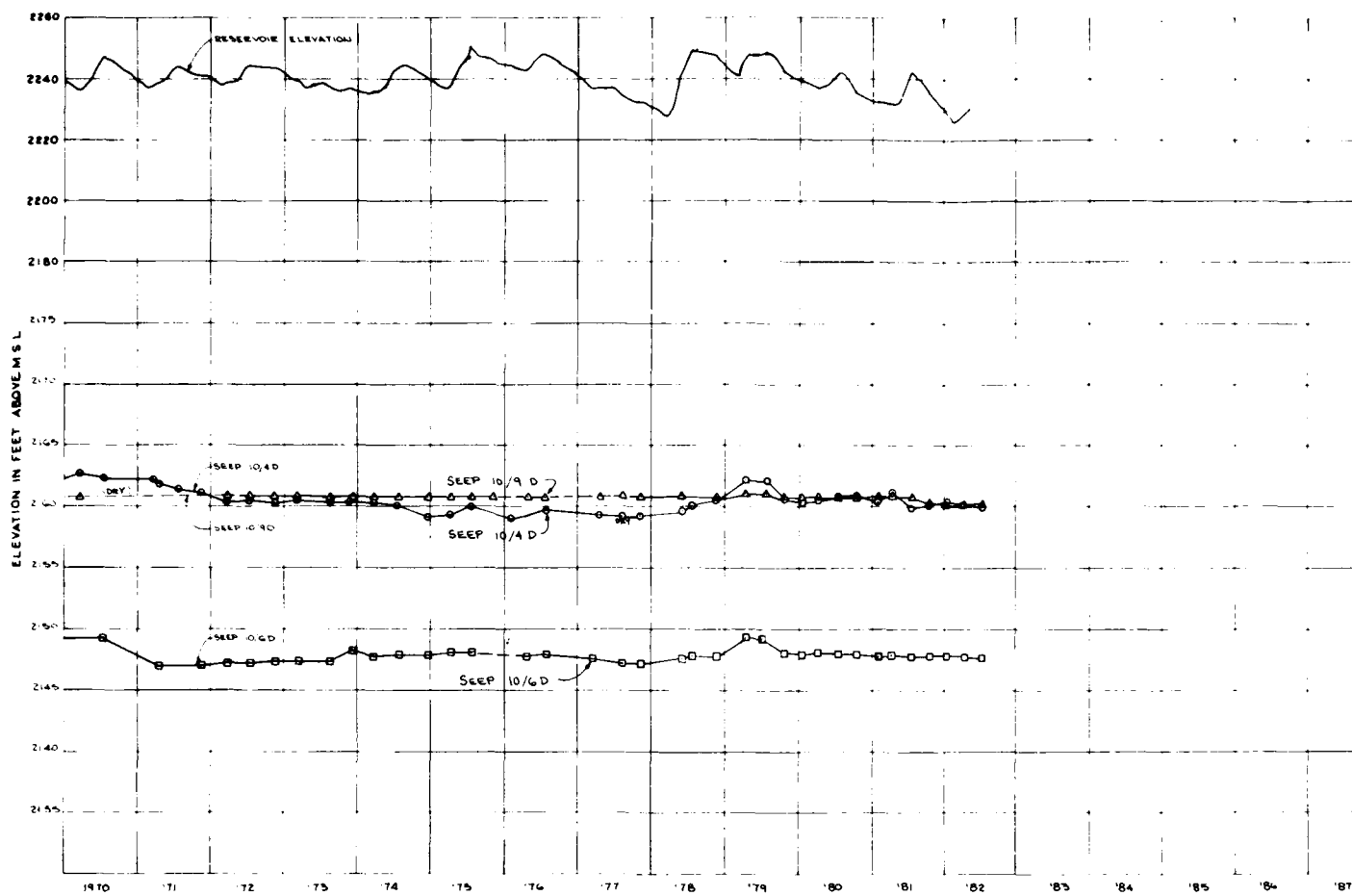
DATE	DESCRIPTION	MADE	APPROVED
REVISIONS			
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA			
DESIGNED BY:		MISSOURI RIVER FORT PECK LAKE, MONTANA	
DRAWN BY:		EMBANKMENT PIEZOMETERS STATION 35+00	
CHECKED BY:			
DATE	SECTION	APPROVED	DATE
DATE	SECTION	CHIEF ENGINEERING DIVISION	DATE
APPROVED	SCALE AS SHOWN	SHEET NO.	TOTAL SHEETS
U. S. E. DISTRICT ENGINEER		SHEET	

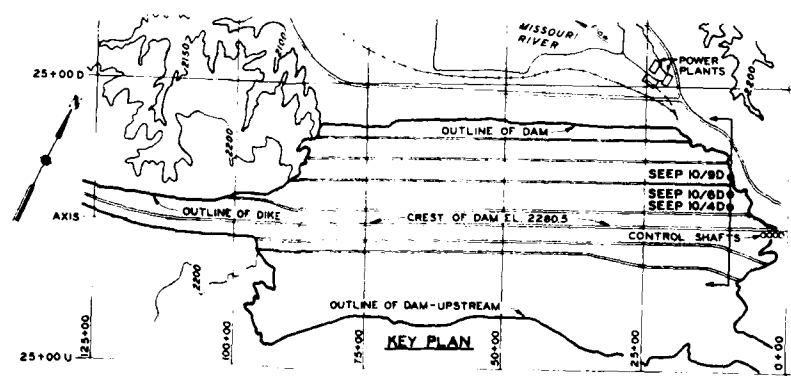
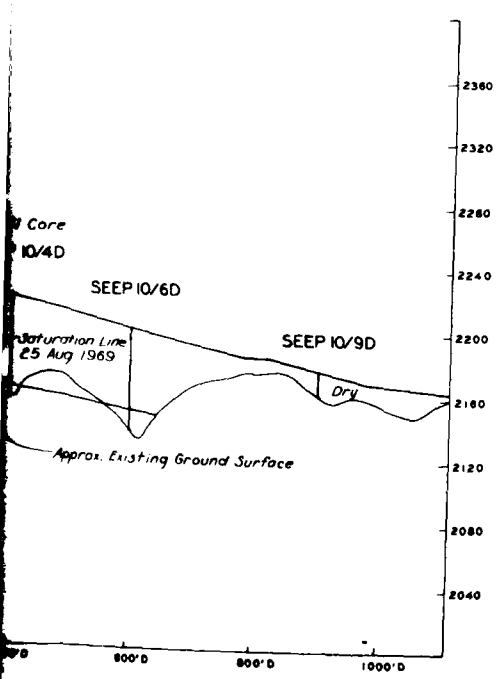
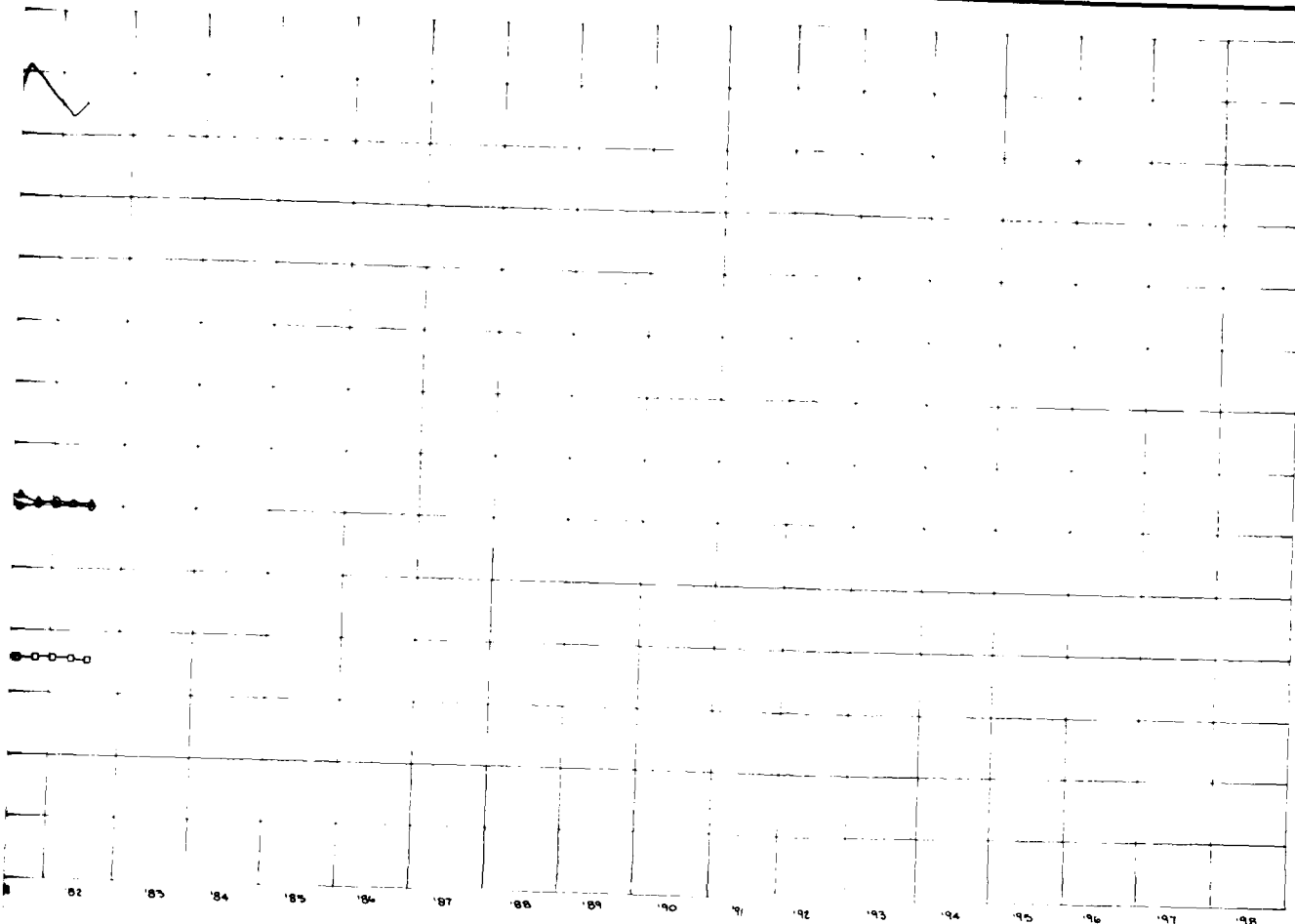






FORT PECK DAM AND RESERVOIR





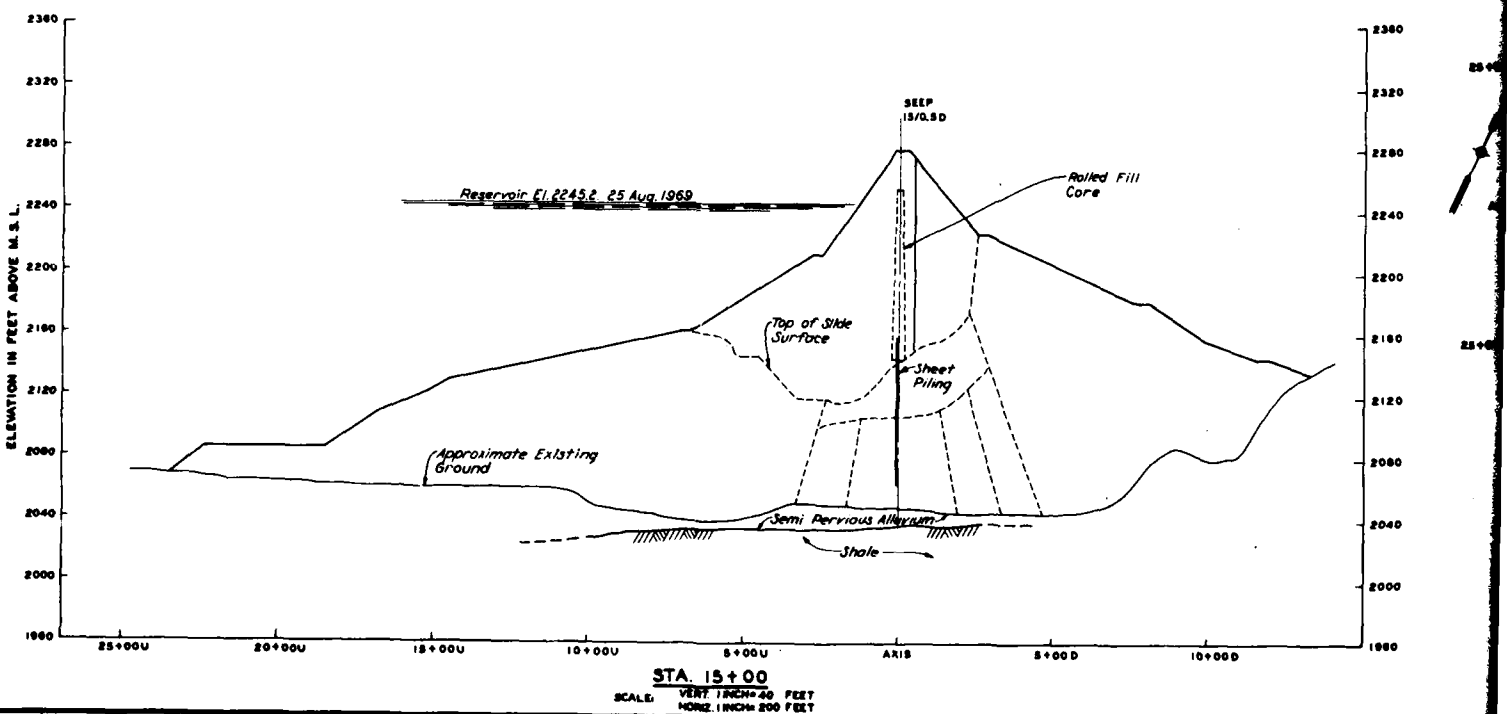
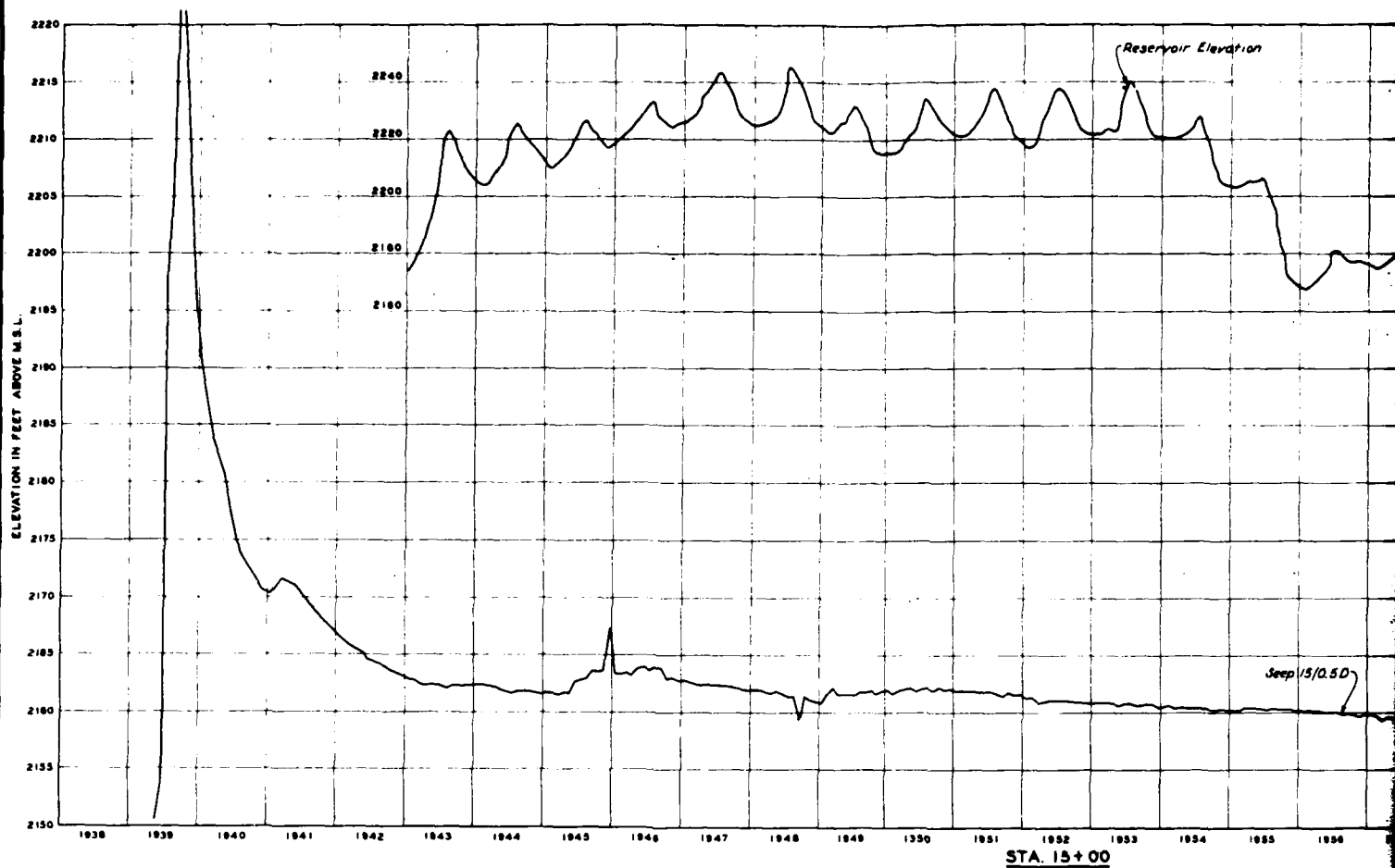
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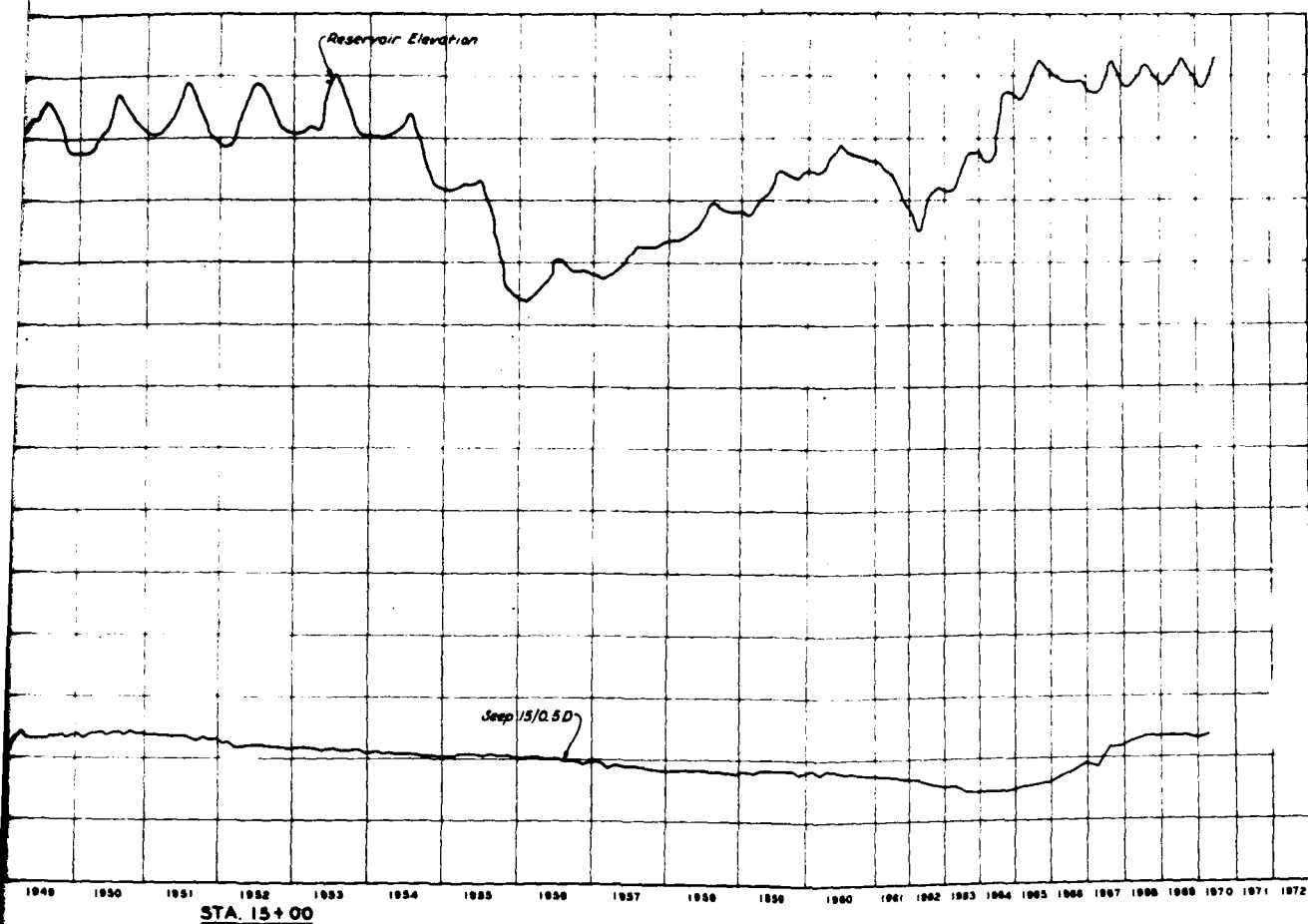
THIS PLAN ACCOMPANIES CONTRACT NO.
MODIFICATION NO.

DATE		REVISIONS		MADE	APPROVED
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
MISSOURI RIVER FORT PECK LAKE, MONTANA SATURATION LINE OBSERVATIONS STA. 10+00					
DESIGNED BY:	CHECKED BY:	APPROVED BY:	DATE:		
DRAWN BY: L. M. G.	APPROVED BY:	DATE:			
DESIGNED BY:	APPROVED BY:	DATE:			
DESIGNED FOR: S. M. T. S. ENGINEER	APPROVED BY:	DATE:			
APPROVED BY:	DATE:				
SIGNED: L. E. GUTTER ENGINEER		SIGNED: AS SHOWN		SIGNED: NO.	

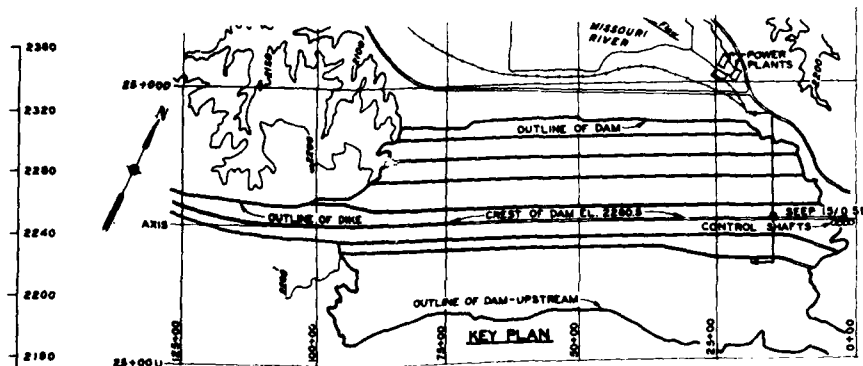
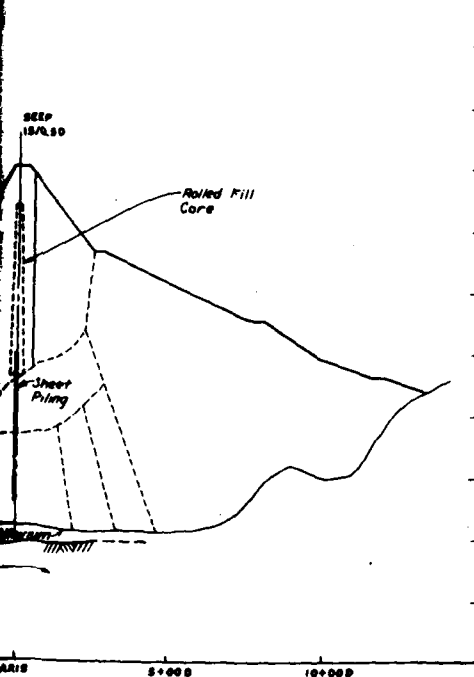
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FORT PECK DAM AND RESERVOIR

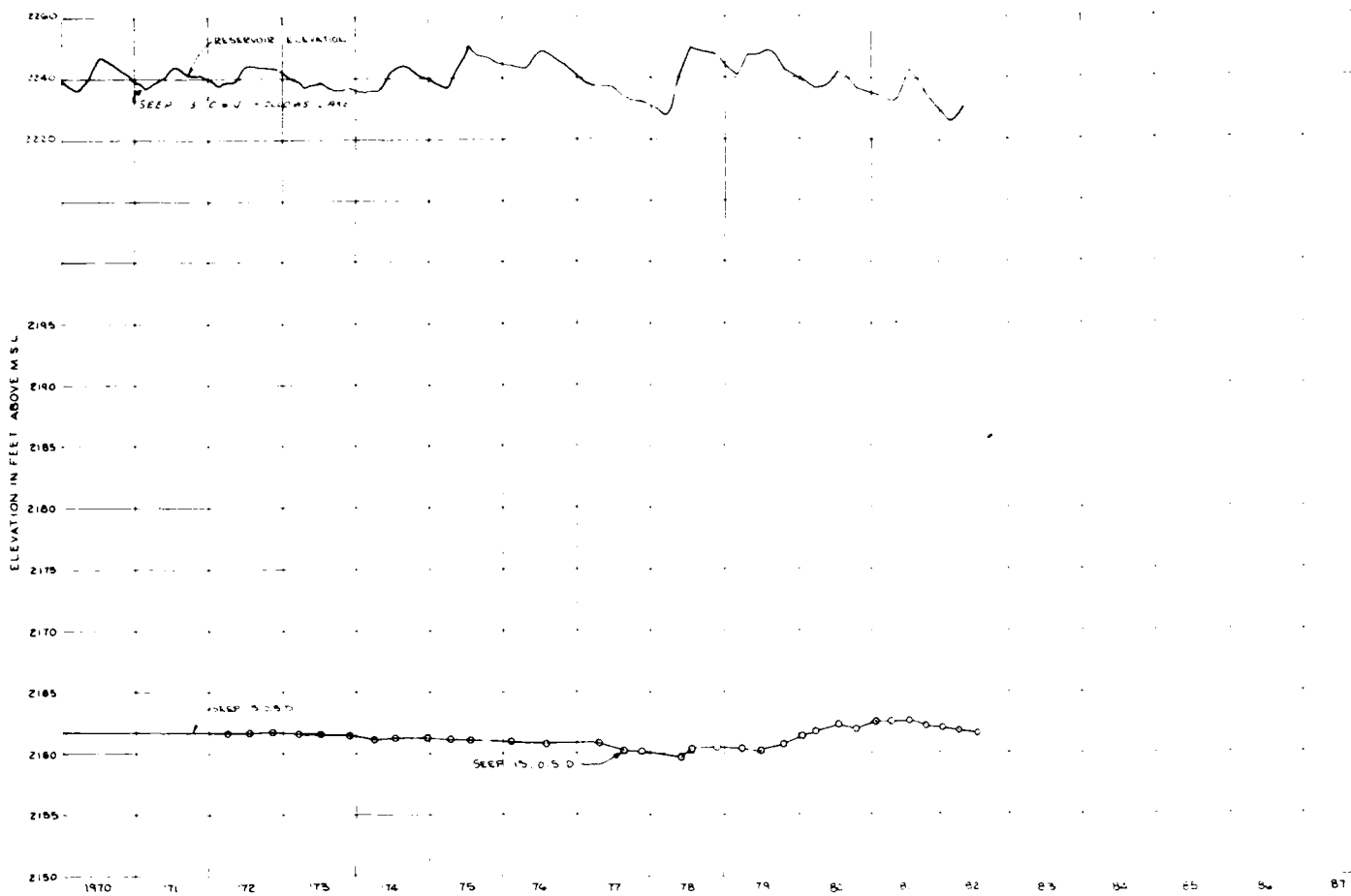


STA. 15+00

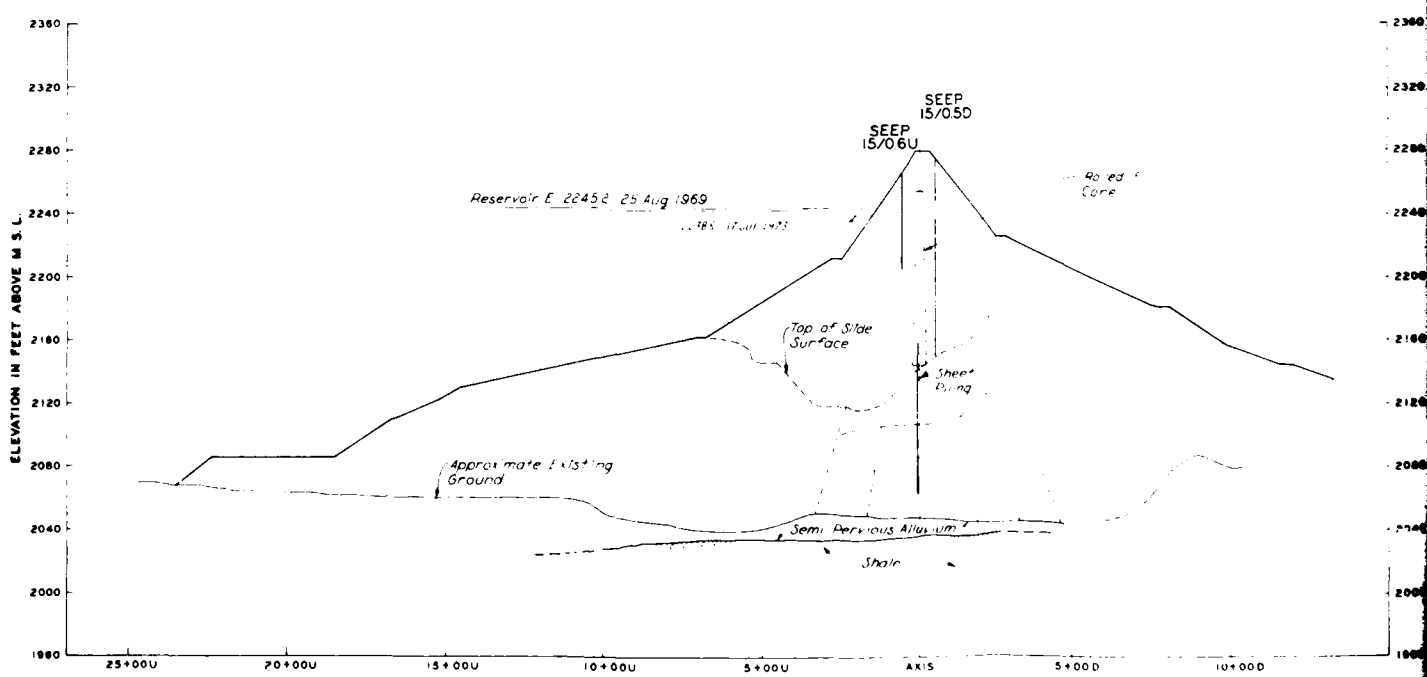


DATE		REVISIONS		NAME		APPROVE	
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA							
MISSOURI RIVER							
FORT PECK LAKE, MONTANA							
SATURATION LINE OBSERVATIONS STA. 15+00							
DESIGNED BY	CHECKED BY	APPROVED BY	DATE				
CONSTRUCTED BY	CONTRACT NO.	PROJECT NO.	DATE				
CONTRACT NO.	PROJECT NO.	DATE					
U. S. ARMY ENGINEER DISTRICT, OMAHA							





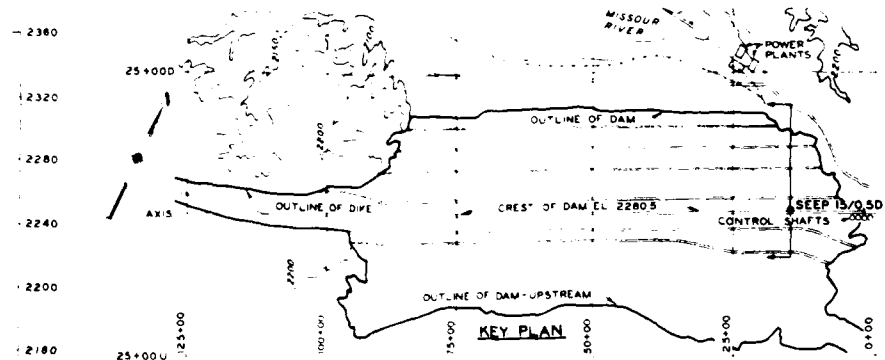
STA 15+00



STA 15+00

SCALE: VERT. 1 INCH = 40 FEET
HORIZ. 1 INCH = 200 FEET

STA 15+00

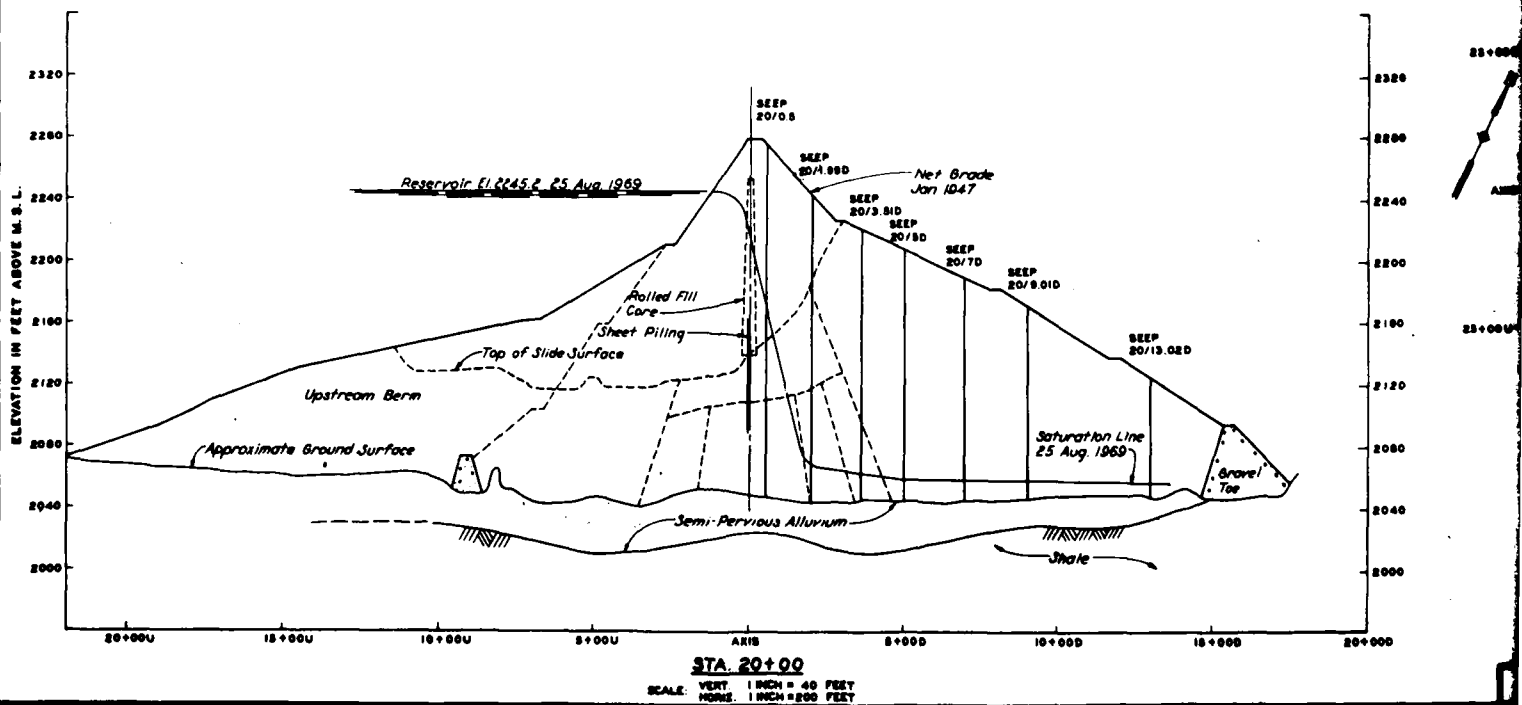
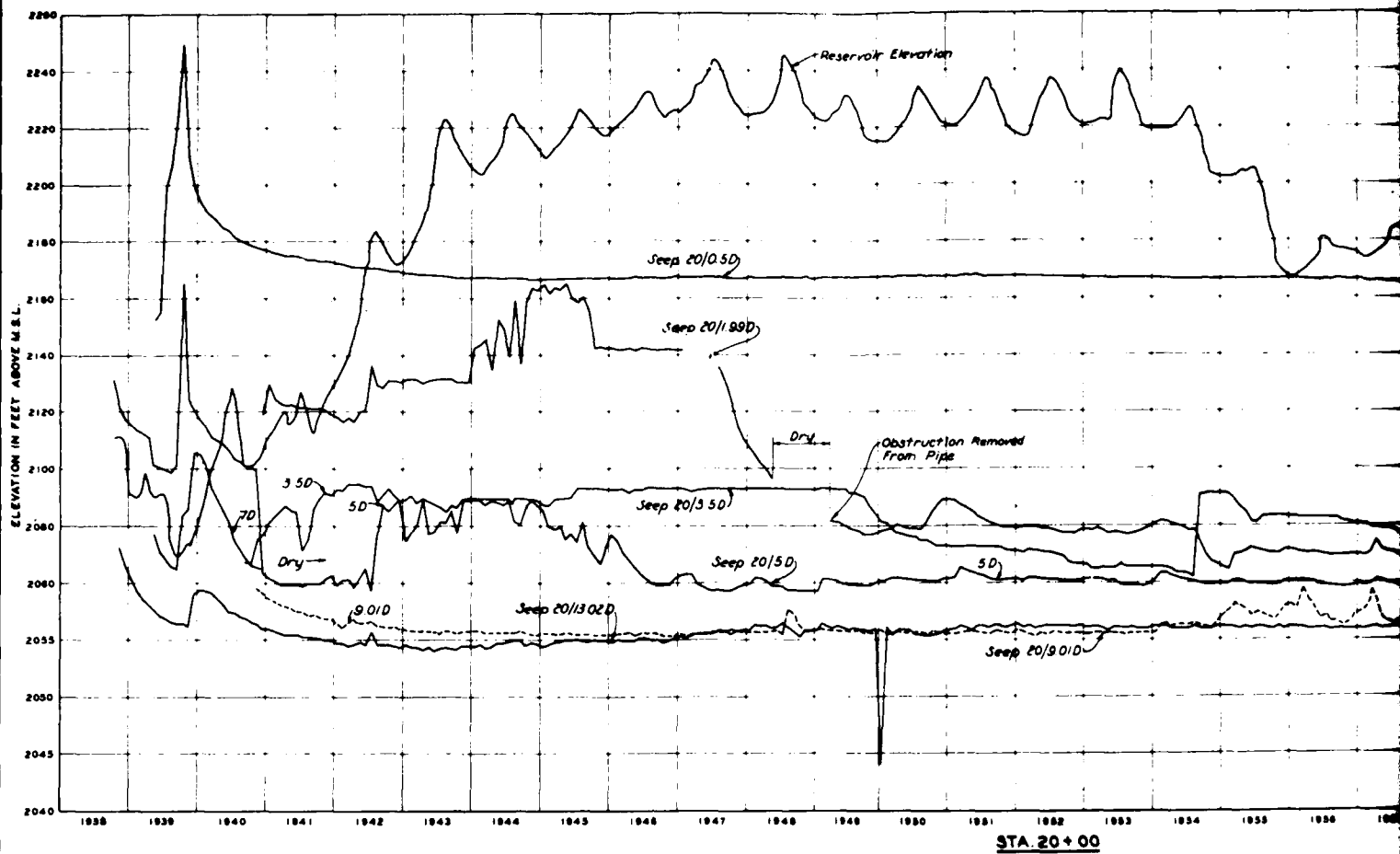


REVISIONS		DATE	DESCRIPTION	MADE	APPROVED
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
DESIGNED BY:		MISSOURI RIVER			
DRAWN BY: L. M. C.		FORT PECK LAKE, MONTANA			
CHECKED BY:		SATURATION LINE OBSERVATIONS			
APPROVED BY:		STA. 15+00			
DESIGNED FOR: U.S. ARMY		APPROVED:		DATE:	
DESIGNED BY: L. M. C.		DESIGNED FOR: U.S. ARMY		SCALE: AS SHOWN	
APPROVED:		DESIGNED BY: L. M. C.		SHEET NO.	
APPROVED:		DESIGNED BY: L. M. C.		SHEET NO.	

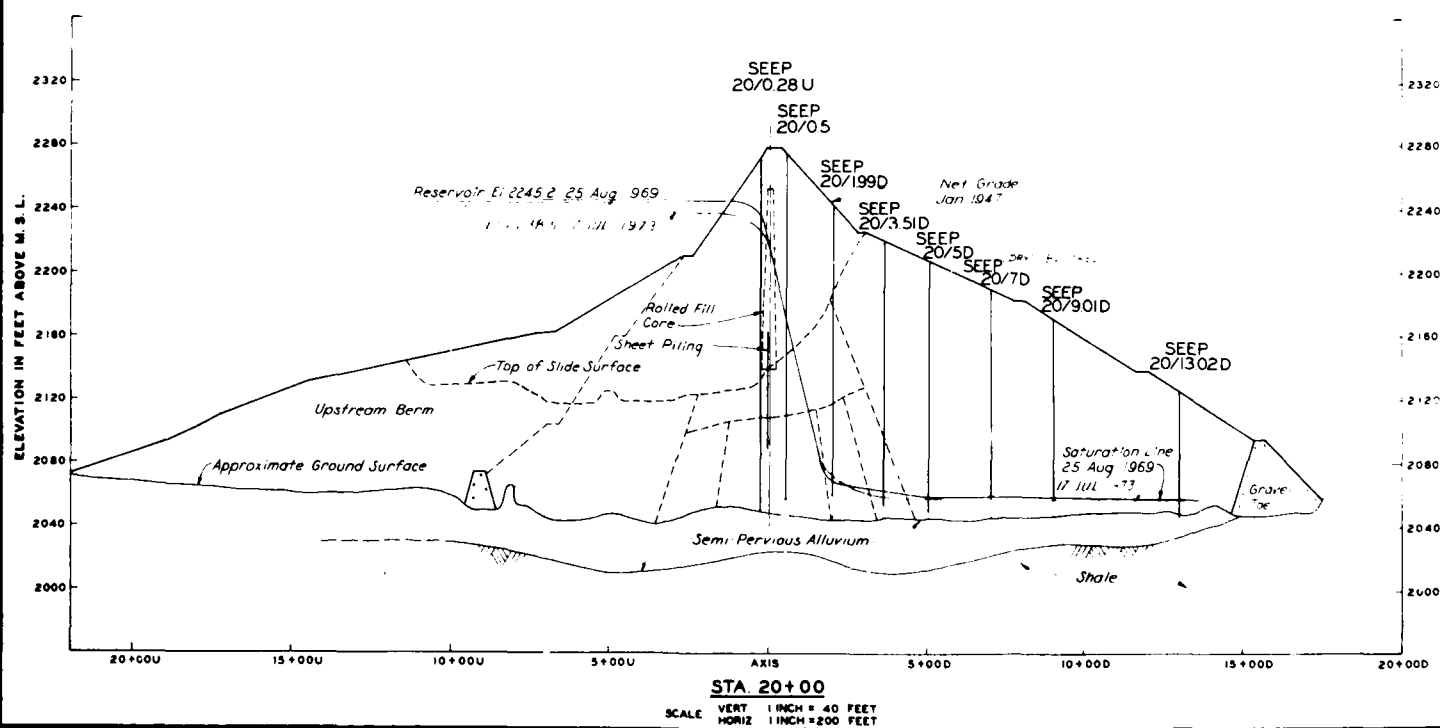
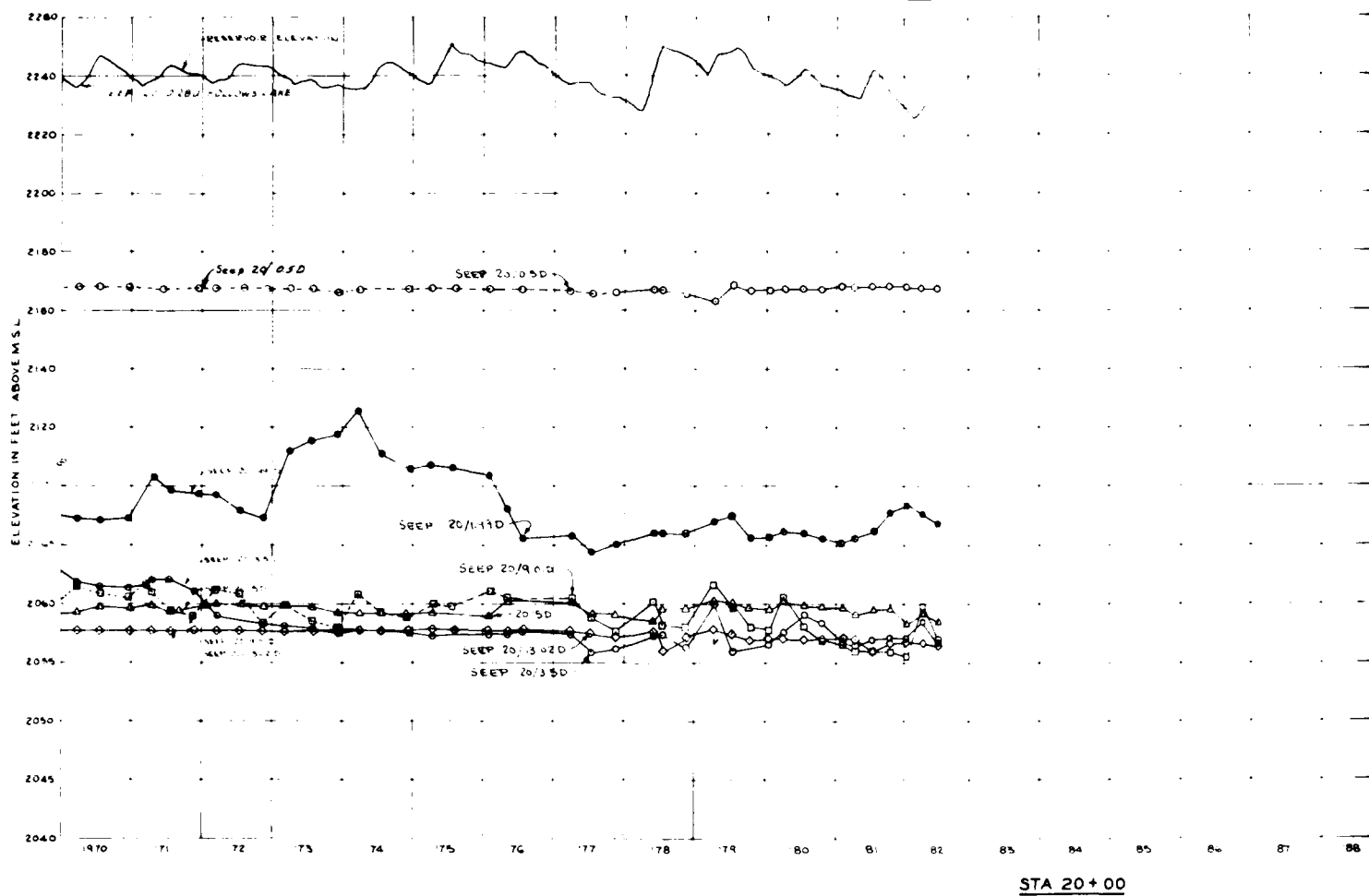


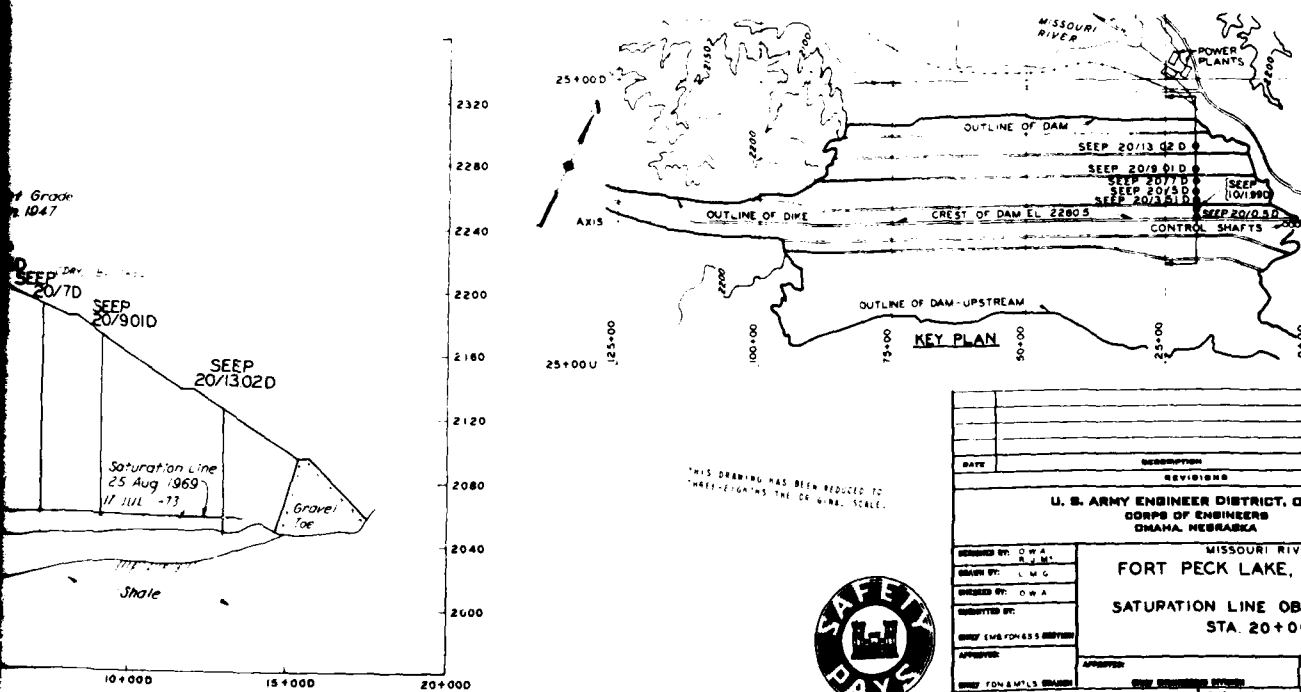
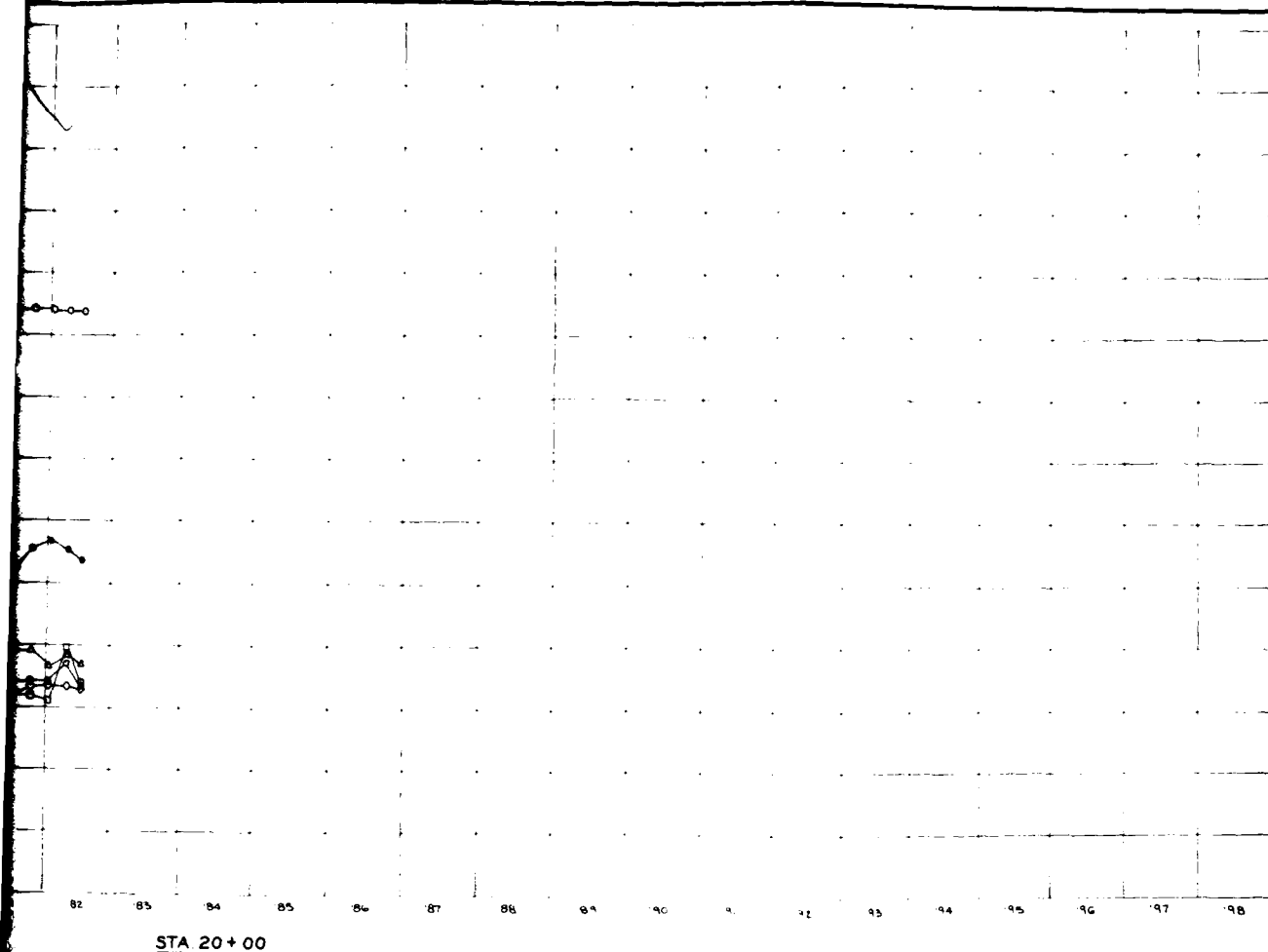
THIS DRAWING HAS BEEN REDUCED TO
THREE-FIFTHS THE ORIGINAL SCALE.

THIS PLAN ACCOMPANIES CONTRACT NO.
MODIFICATION NO.



FORT PECK DAM AND RESERVOIR





**U. S. ARMY ENGINEER DISTRICT, OMAHA
CORPS OF ENGINEERS
OMAHA, NEBRASKA**

DESIGNED BY: C W A.
DRAWN BY: L M G.
CHECKED BY: C W A
SUBMITTED BY:
GIEF (EMERGENCY SERVICE)

MISSOURI RIVER
FORT PECK LAKE, MONTANA

SATURATION LINE OBSERVATIONS
STA. 20+00

APPROVED:

APPROVER:

DATE:

GIEF CON & M'S DESIGN

GIEF REVENUE OFFICE:

APPROVER:

SPECIAL AG APPROV

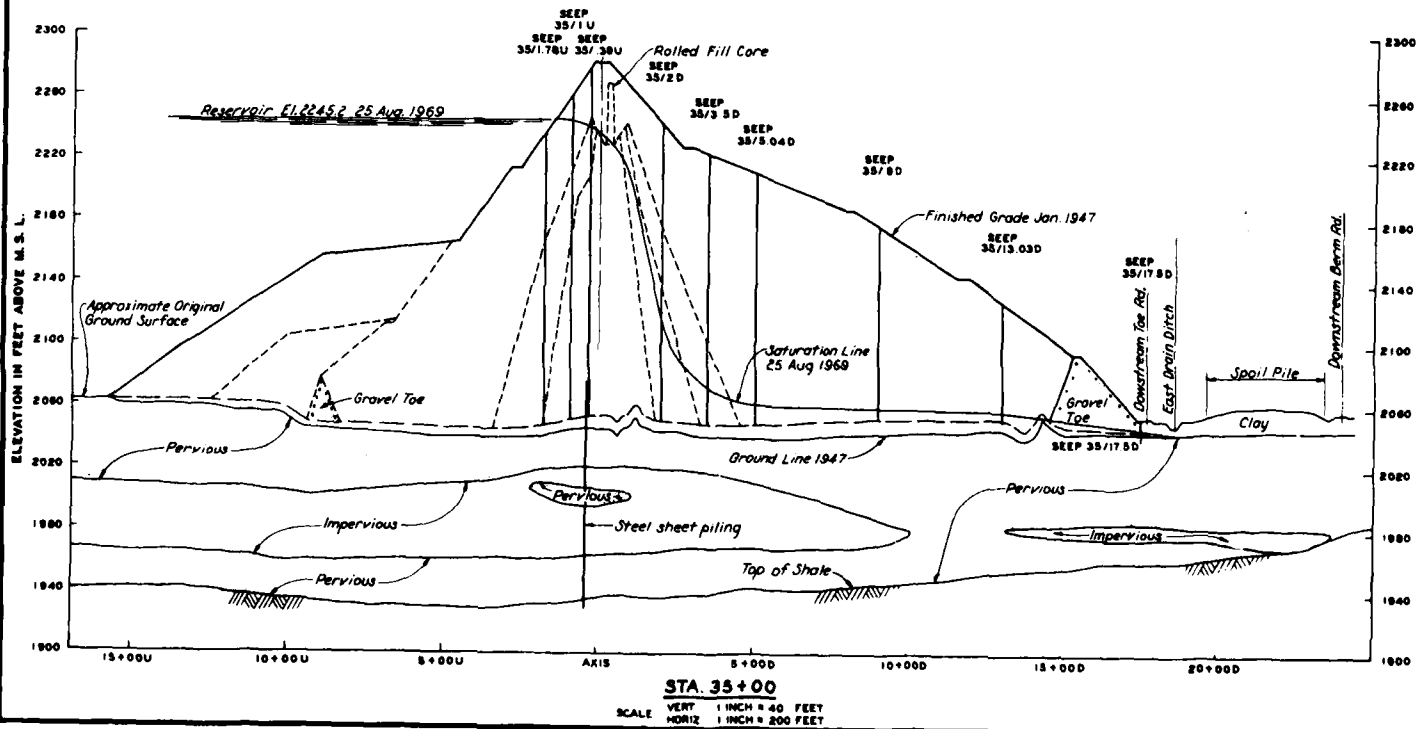
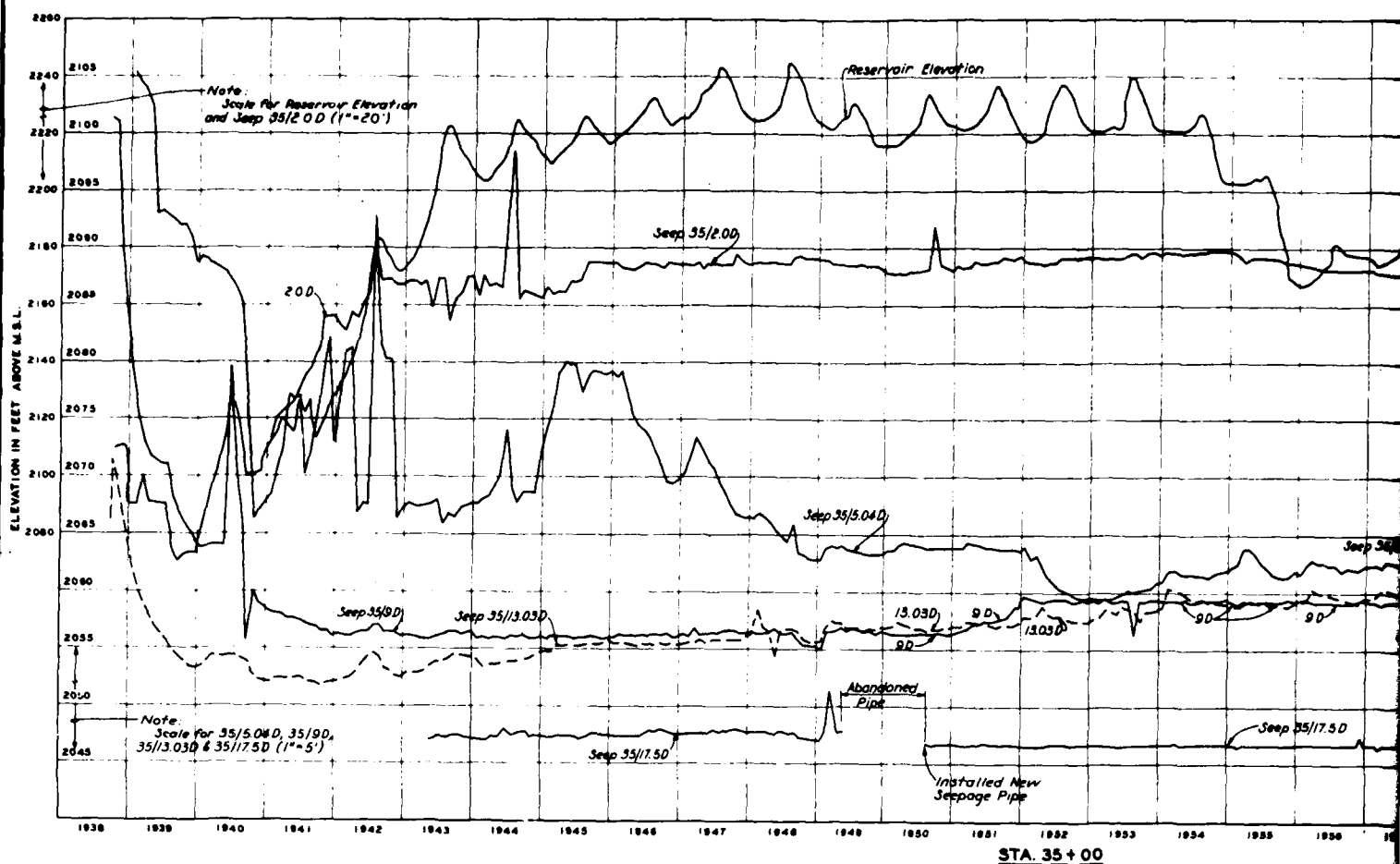
APRIL 29.

DRAWING NUMBER

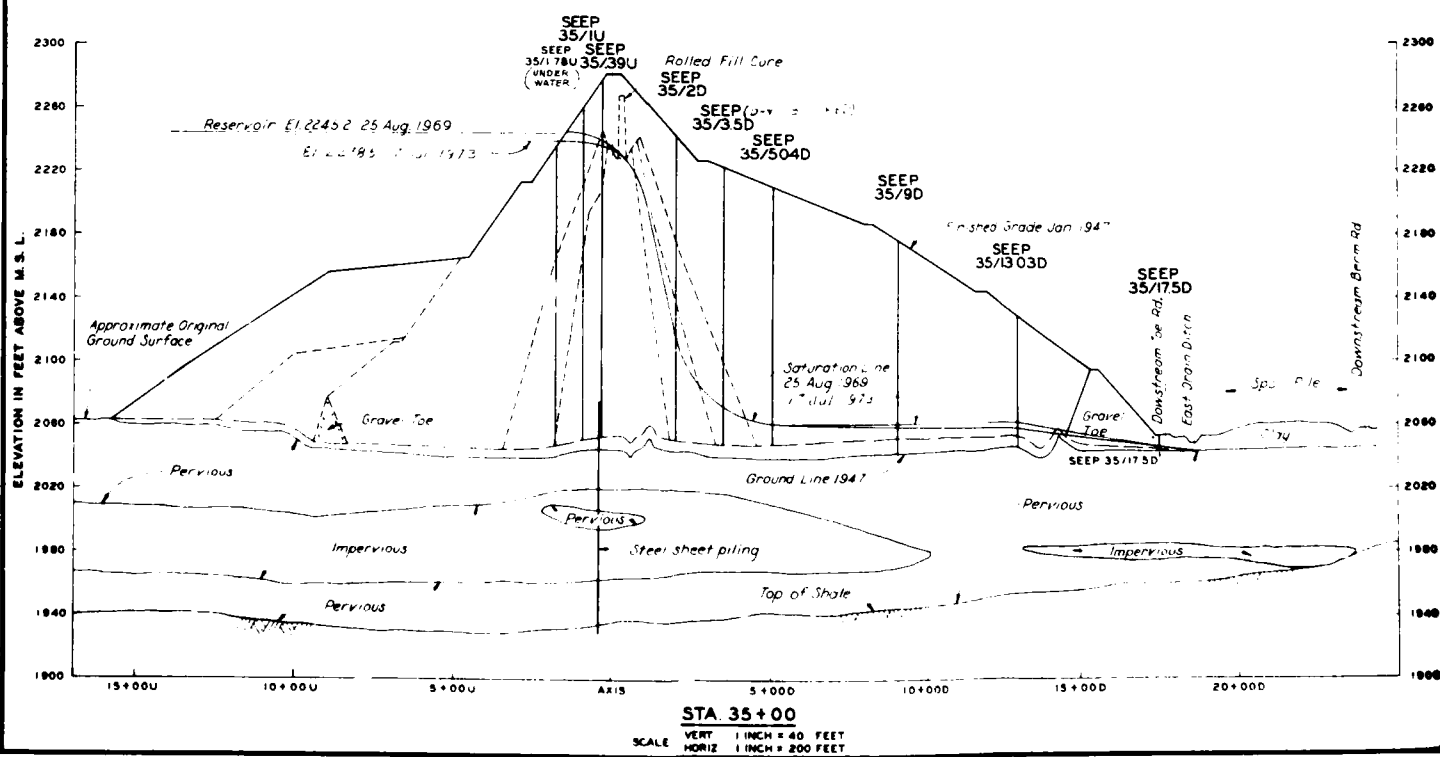
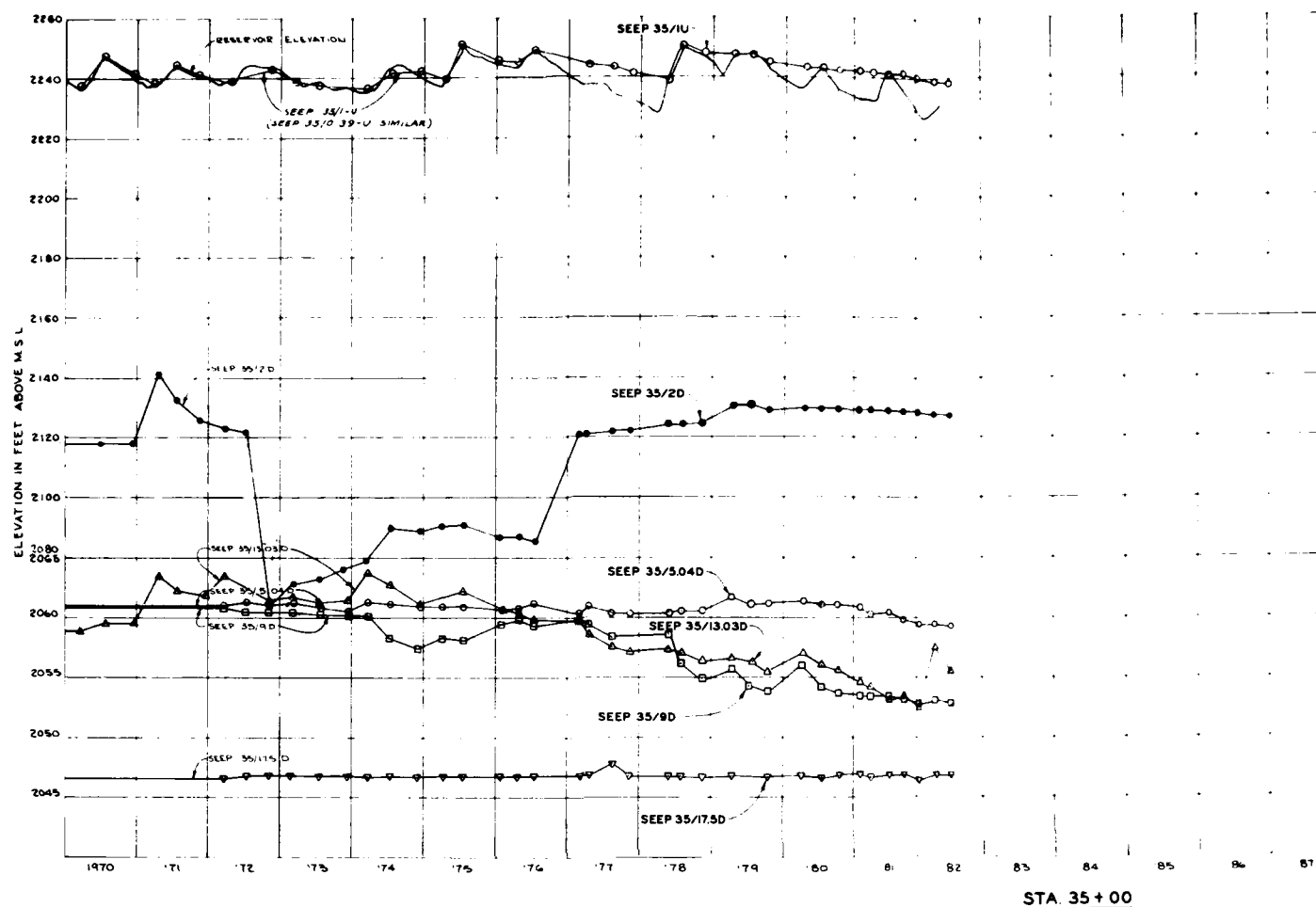
DR. E. L. GATTY DIVISION
GIEF



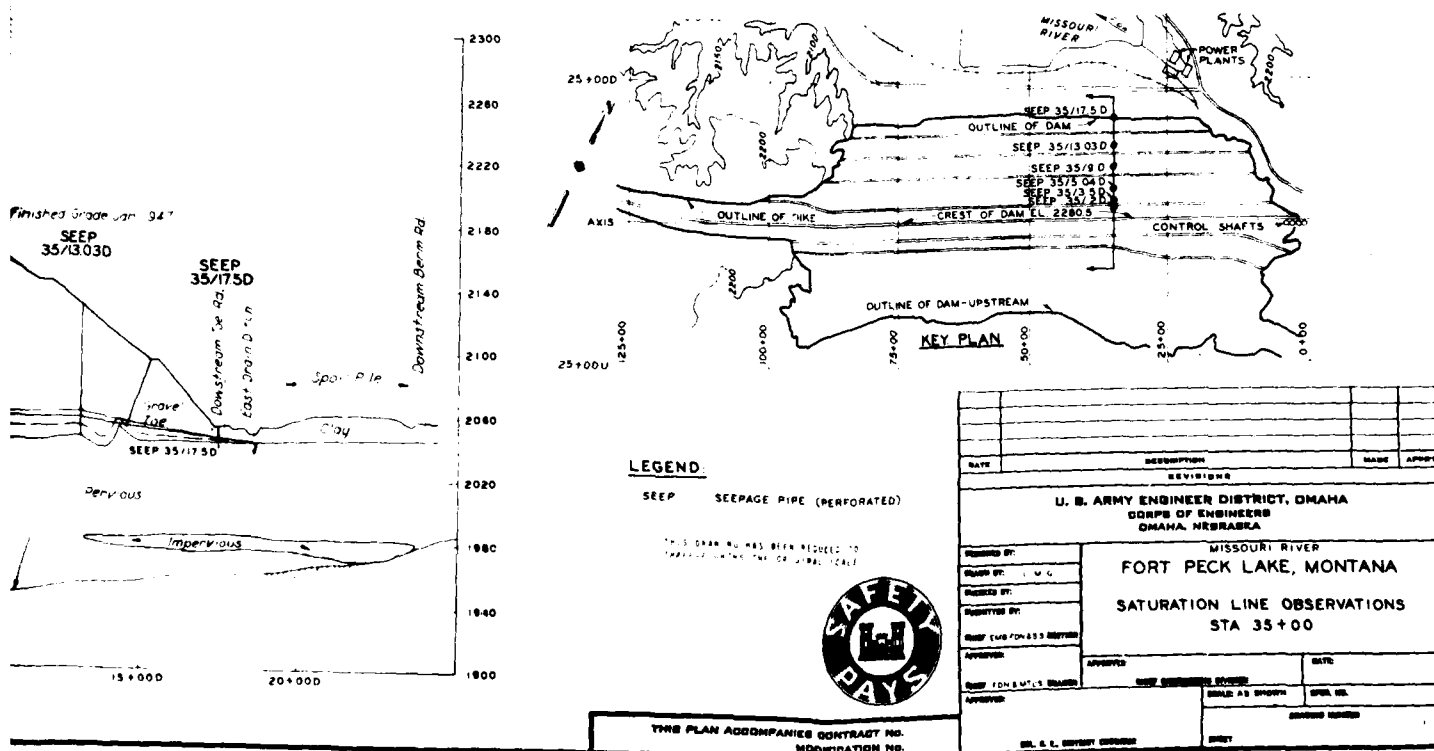
THIS PLAN ACCOMPANIES CONTRACT NO. _____
MODIFICATION NO. _____

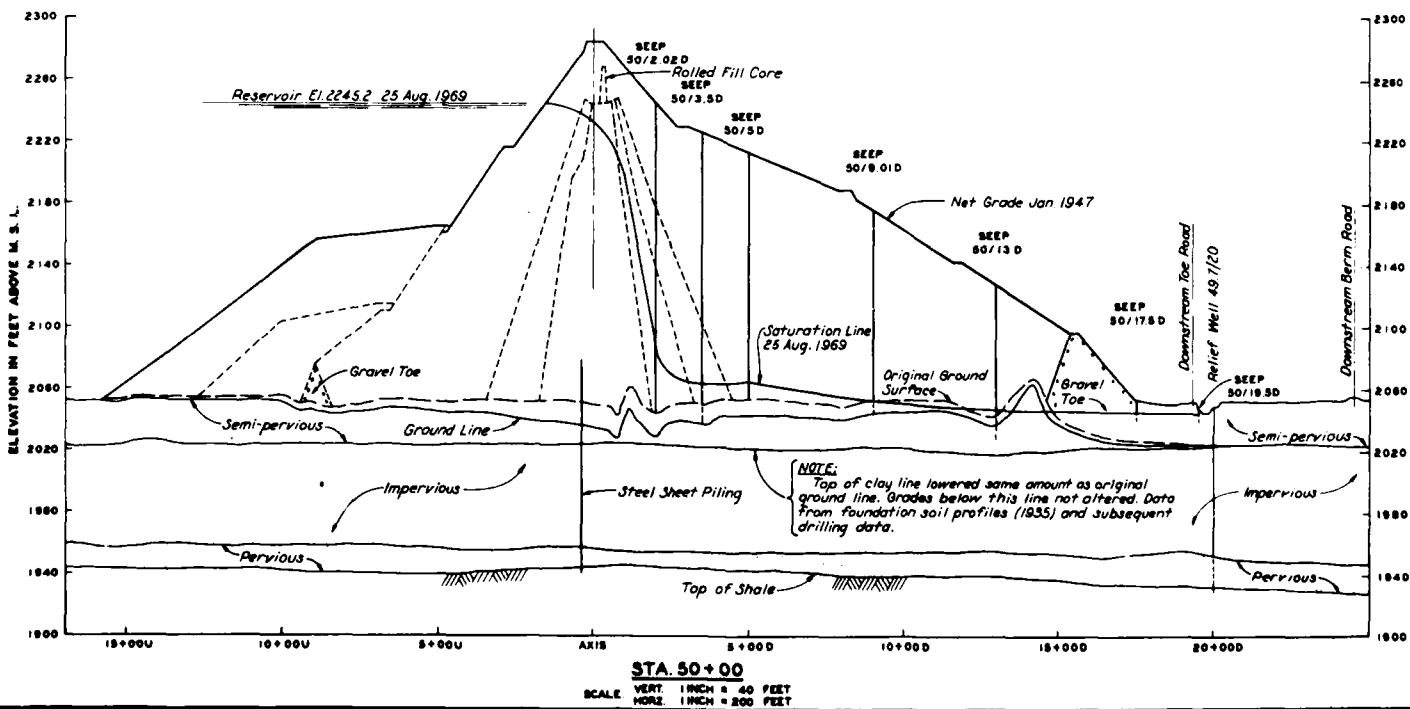
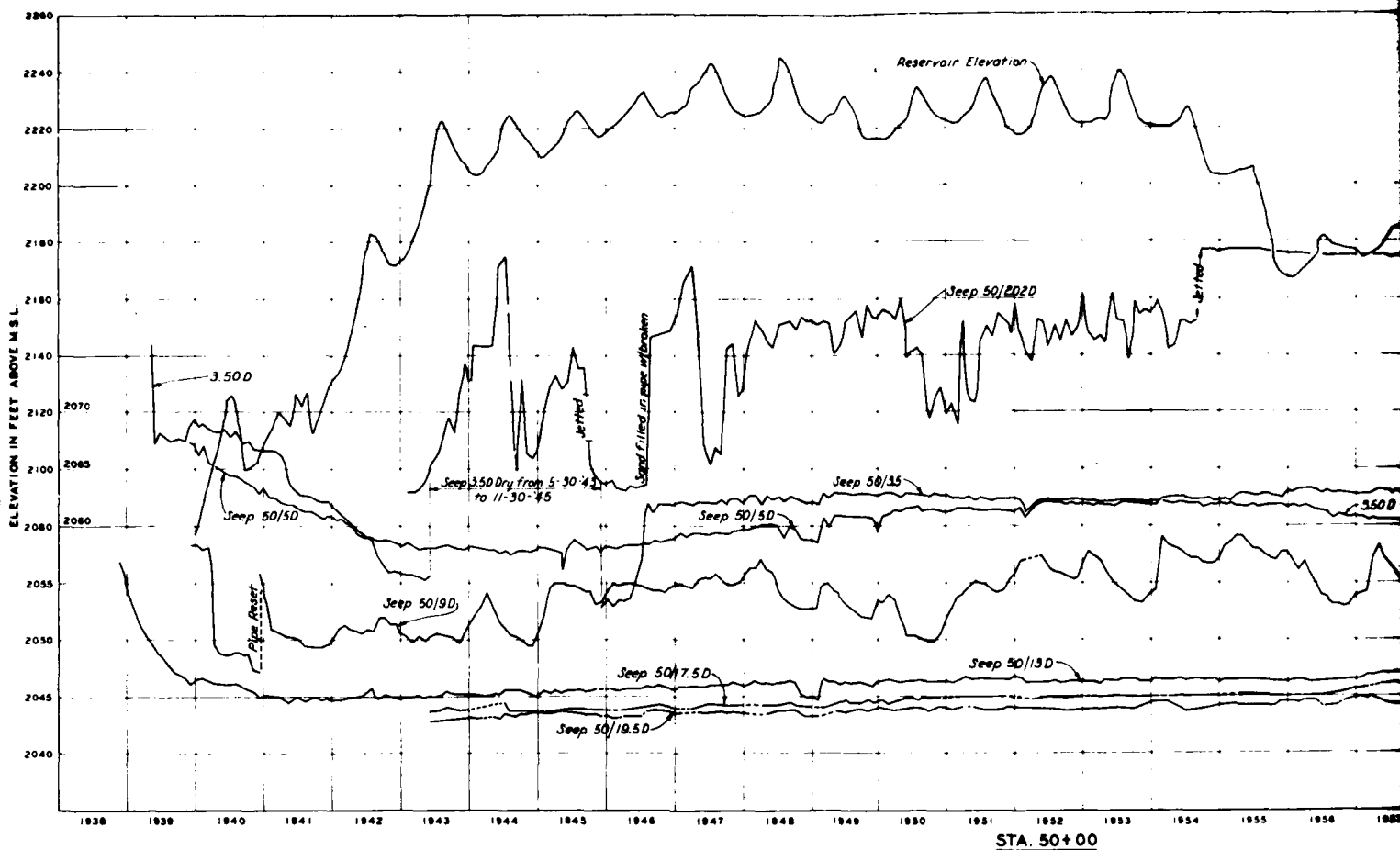


FORT PECK DAM AND RESERVOIR

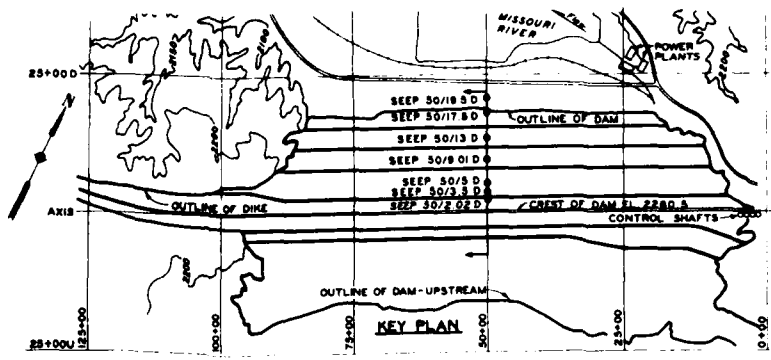
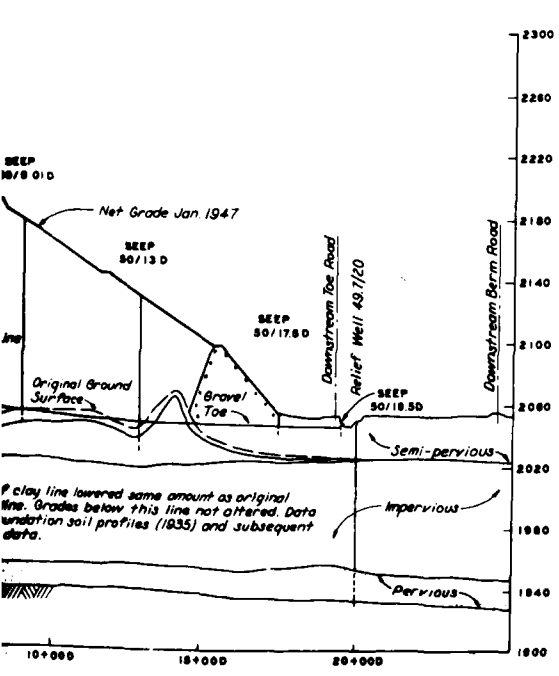
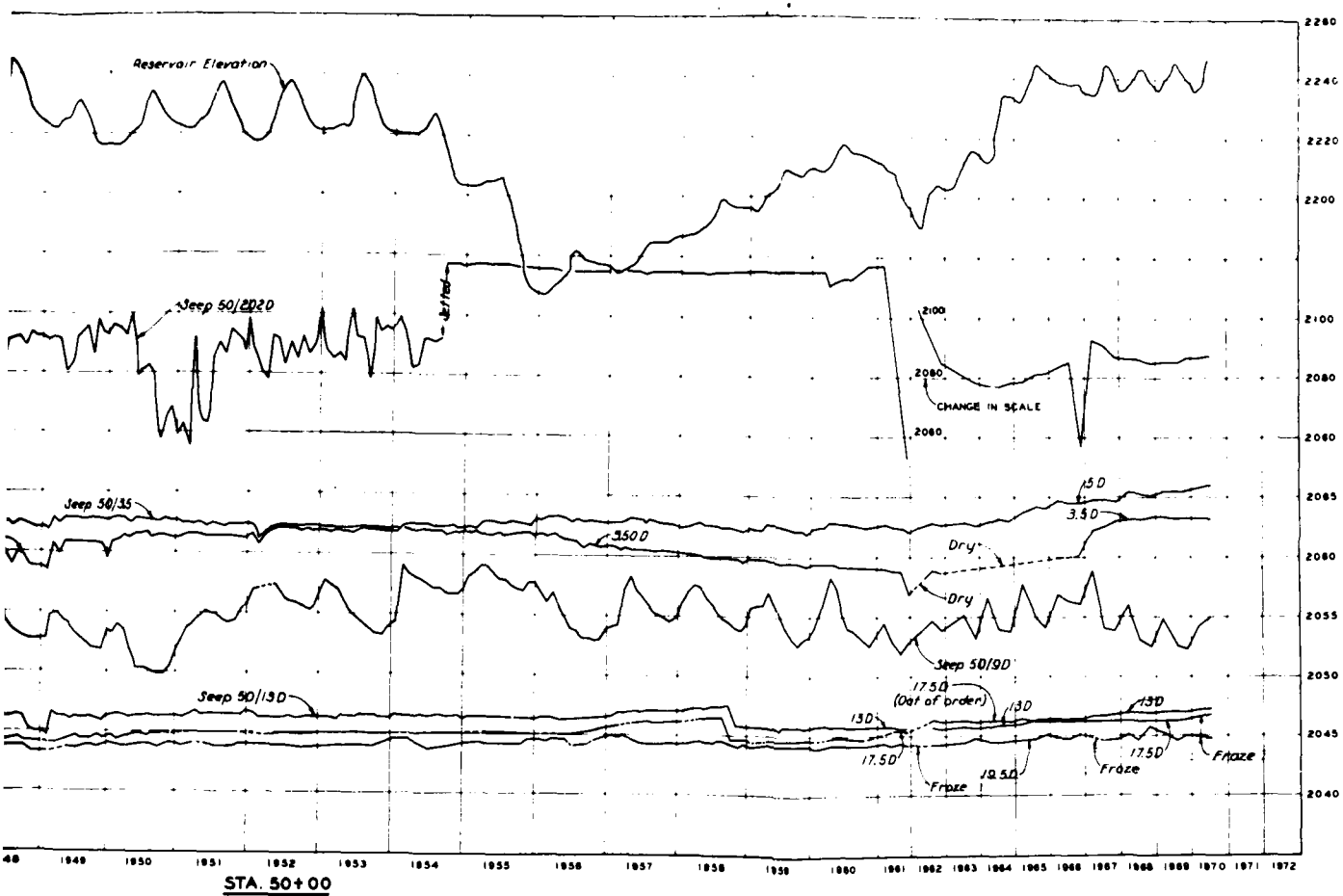


STA 35+00





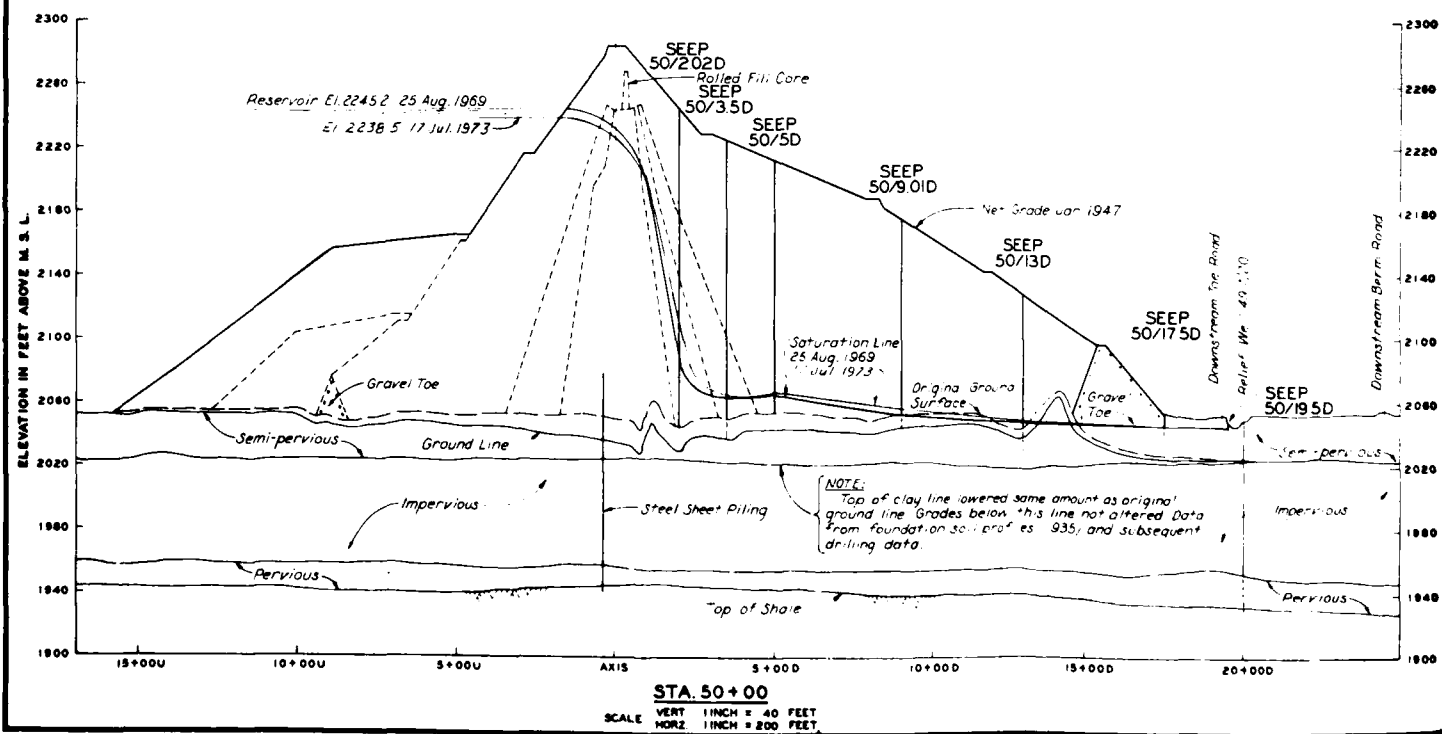
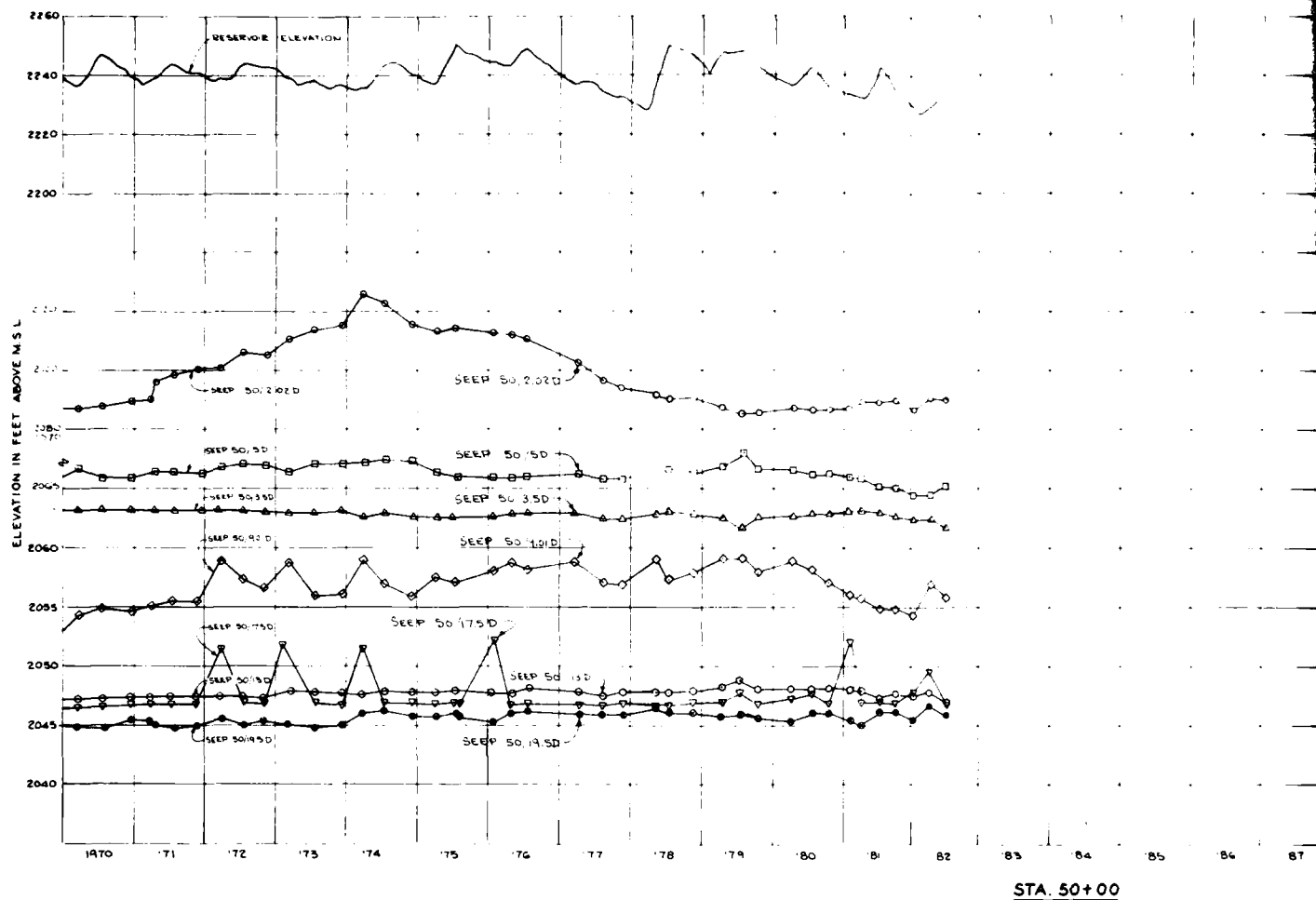
FORT PECK DAM AND RESERVOIR

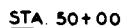


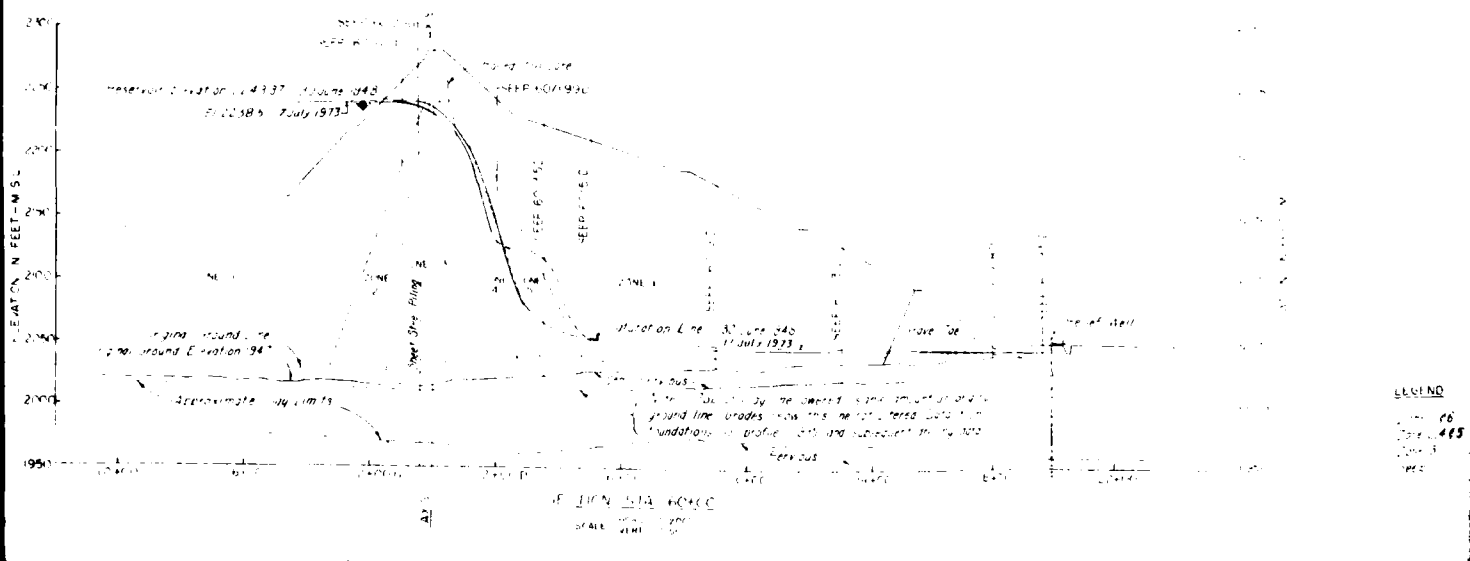
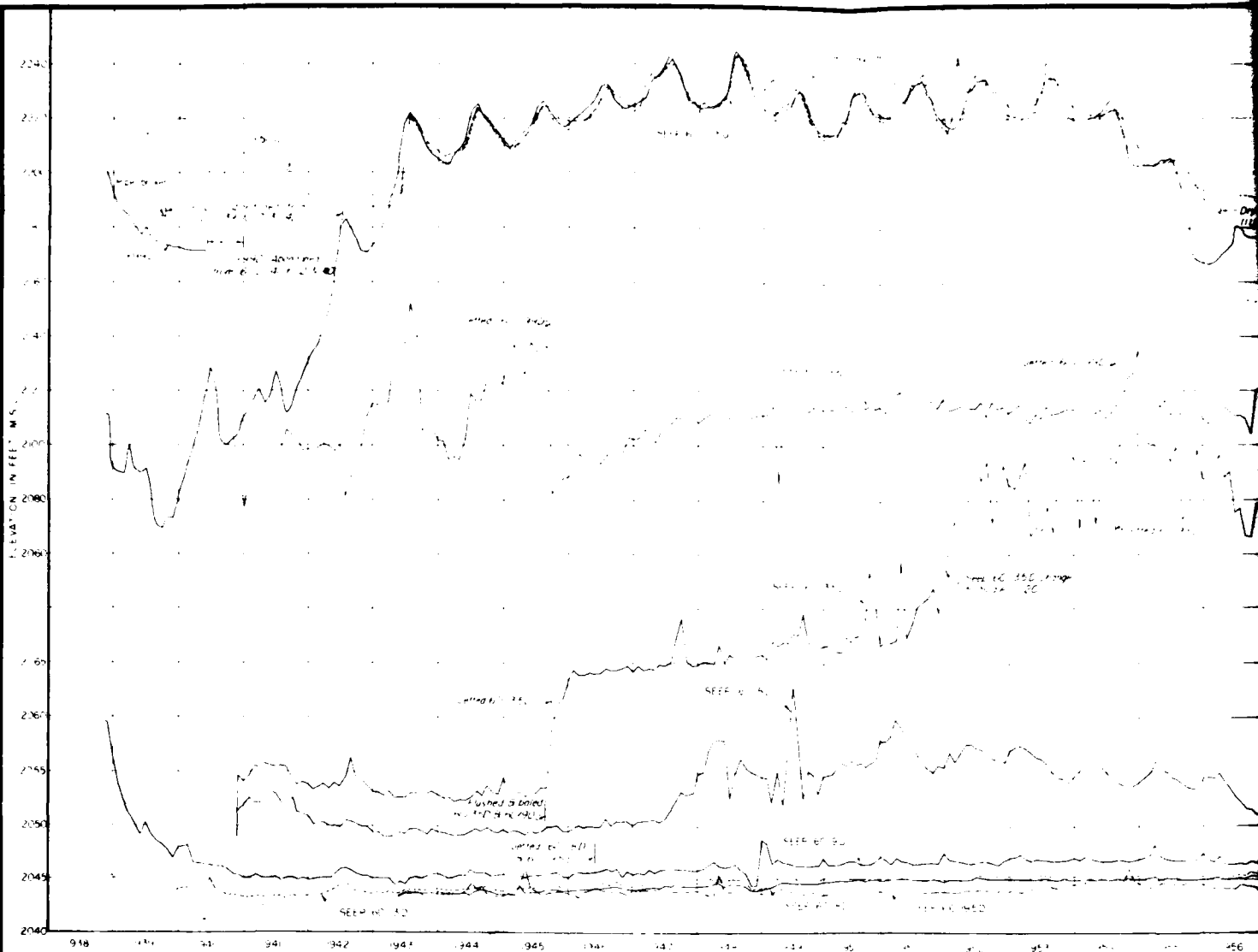
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SEEP SEEPAGE PIPE (PERFORATED)



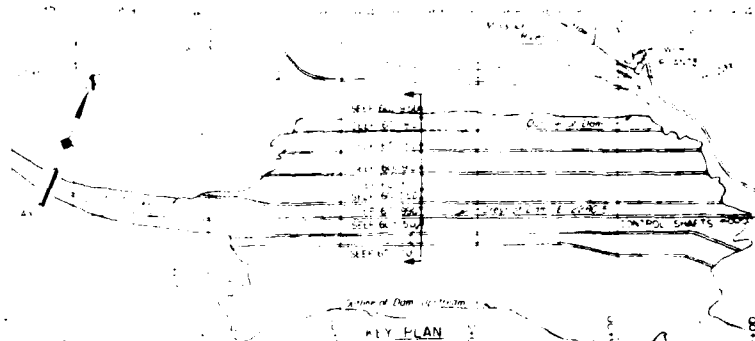
DATE		DESCRIPTION		MADE	APPROVED
REVISIONS					
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
MISSOURI RIVER					
FORT PECK LAKE, MONTANA					
SATURATION LINE OBSERVATIONS STA. 50+00					
DESIGNED BY	CHECKED BY	APPROVED BY	DATE		
DRAWN BY	REVIEWED BY	APPROVED BY	DATE		
INCHES 1/4" = 10' 0" HORIZONTAL	INCHES 1/4" = 10' 0" VERTICAL	APPROVED BY	DATE		
THIS PLAN ACCOMPANIES CONTRACT NO. MODIFICATION NO.		SHEET NO. 1 OF 1			







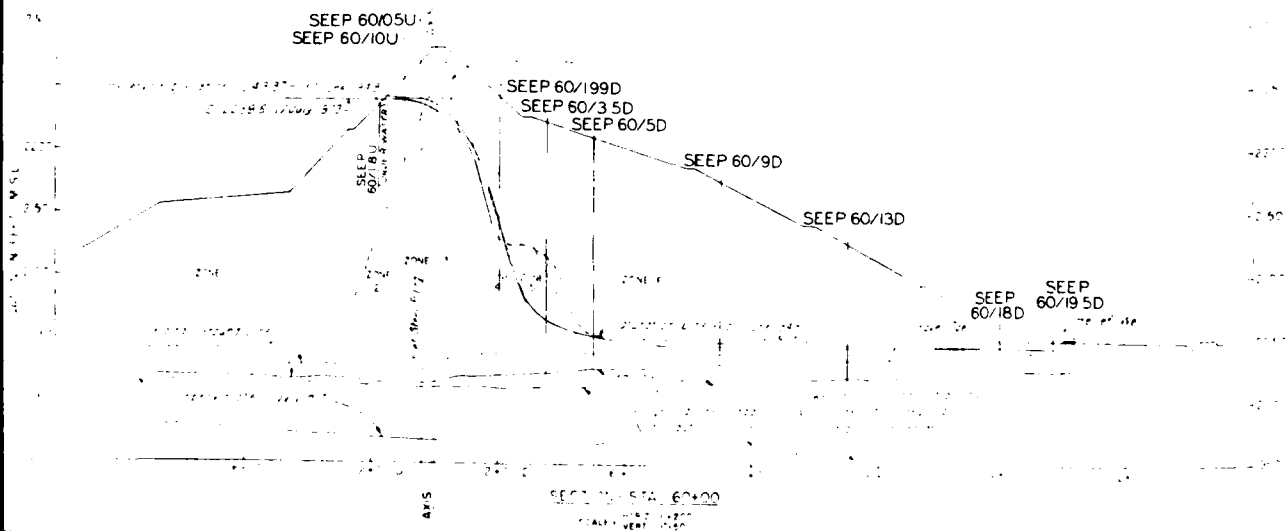
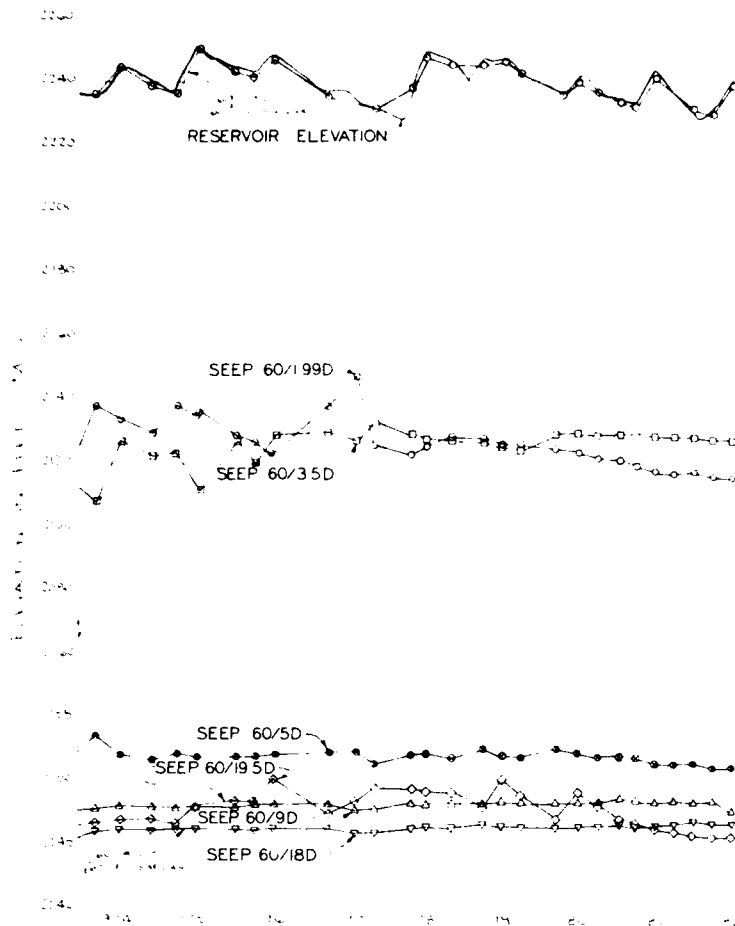
LEGEND
 1. 66
 2. 45
 3. 100
 4. 100

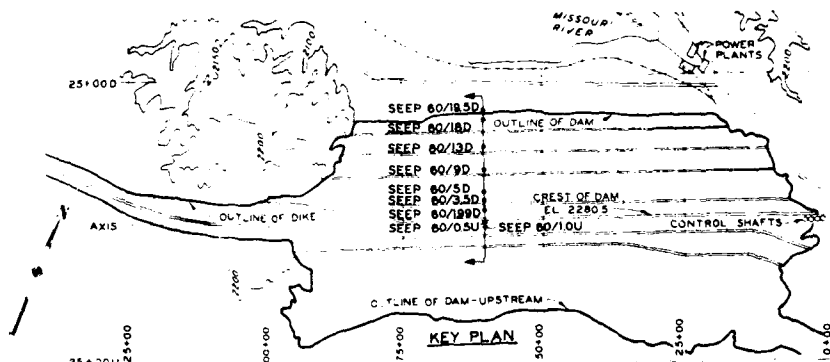


Zone 10 1000000
 Zone 2, 4 & 5 1000000
 Zone 3 1000000
 Zone 4 1000000

THIS DRAWING HAS BEEN REDUCED TO
THREE-FIFTHS THE ORIGINAL SCALE

CORPS OF ENGINEERS, U. S. ARMY OFFICE OF THE DISTRICT ENGINEER GARRISON DISTRICT WASHINGTON	
BY: <input type="checkbox"/> CHIEF DRAWING: 4 68 TRACKS: TRENCH: EXCAVATION:	MOUNTAIN VIEW FORT PECK DAM WASHINGTON LINE OBSERVATIONS STA. 6000
SUBMITTED: RE: TRENCH AND EXCAVATION	APPROVAL RECOMMENDED: DATE: AUGUST 1957 DESIGNED BY: [] CHECKED BY: [] DRAWING NUMBER: 6249.9-1-72 7-64





SEEP 60/18D
SEEP 60/195D

THIS PLAN HAS BEEN REVISIONED BY THE DISTRICT ENGINEER, OMAHA, NEBRASKA

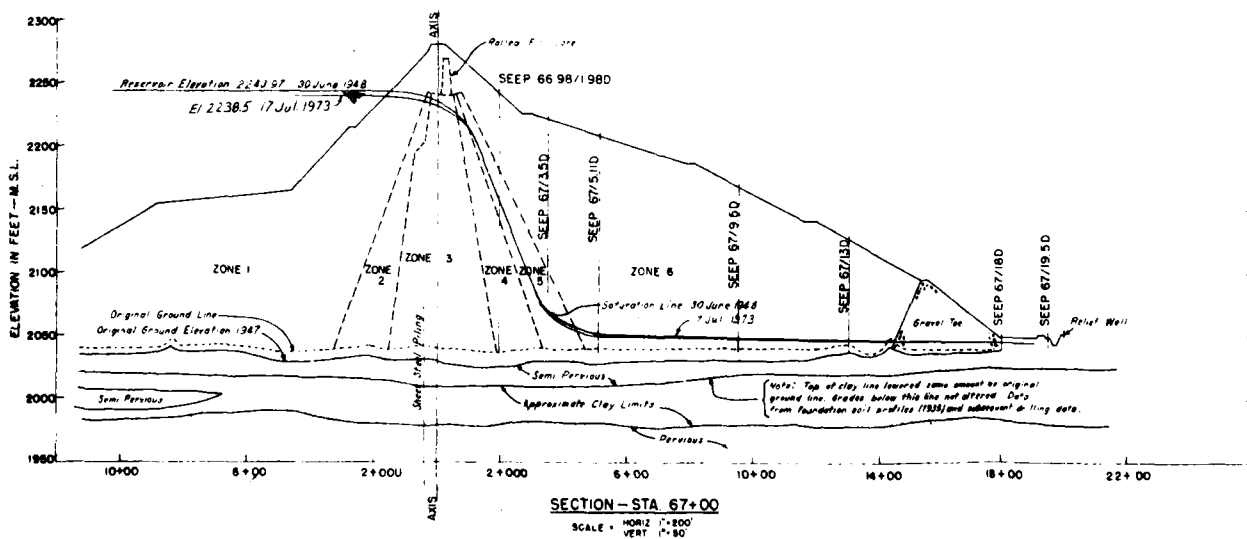
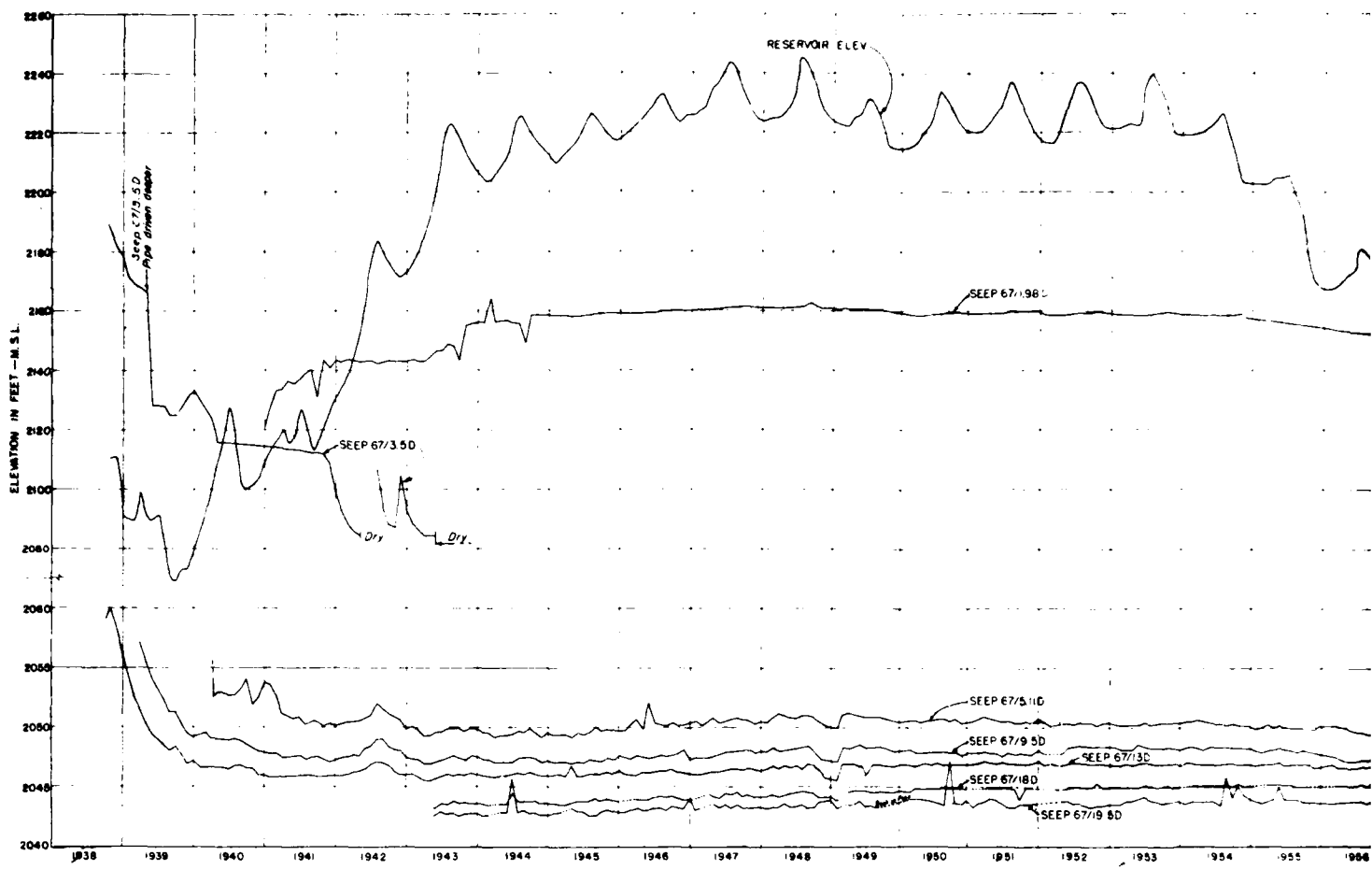


THIS PLAN ACCOMPANIES CONTRACT NO. MODIFICATION NO.

DATE		DESCRIPTION		MADE	APPROVED
REVISIONS					
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
DESIGNED BY:	FORT PECK LAKE, MONTANA				
CHECKED BY:	SATURATION LINE OBSERVATIONS				
SUBMITTED BY:	STATION 60+00				
DISTRICT	SECTION	APPROVED	DATE		
DISTRICT	BRANCH	DISTRICT ENGINEERING DIVISION		SHEET NO.	
APPROVED:	SHEET AS SHOWN		SHEET NO.		
DISTRICT ENGINEER		SHEET		DRAWING NUMBER	

FORT PECK DAM AND RESERVOIR EMBANKMENT CRITERIA AND PERFORMANCE REPORT PLATE 7-65

2



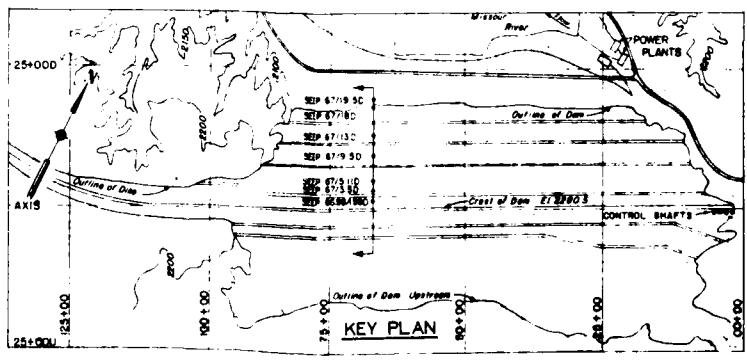
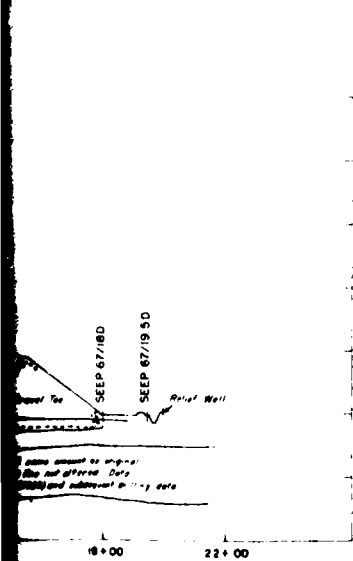
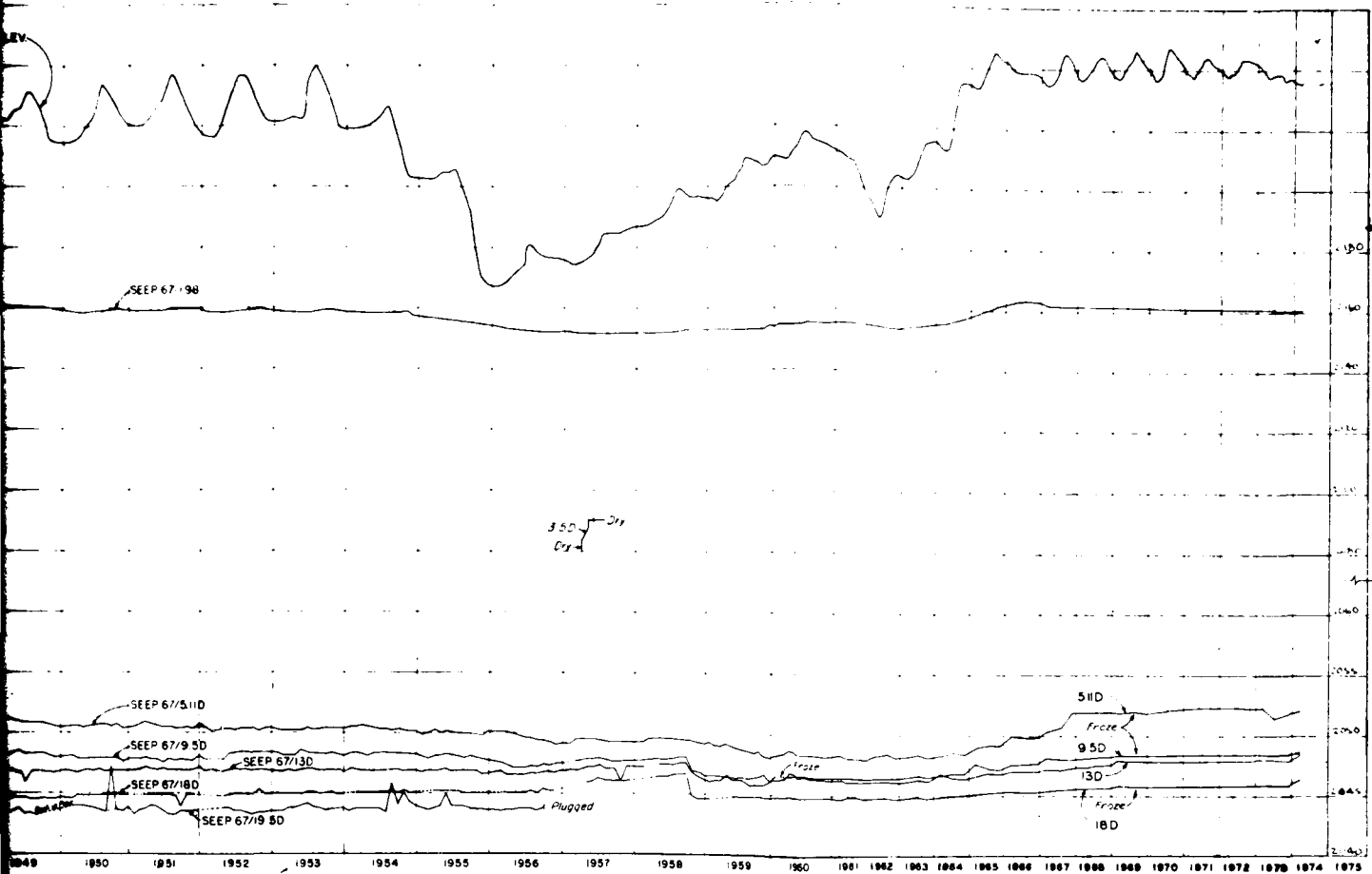
SECTION - STA 67+00
SCALE - HORIZ 1"=80'
VERT 1"=50'

25401

AXIS

2245

LEG
SEI



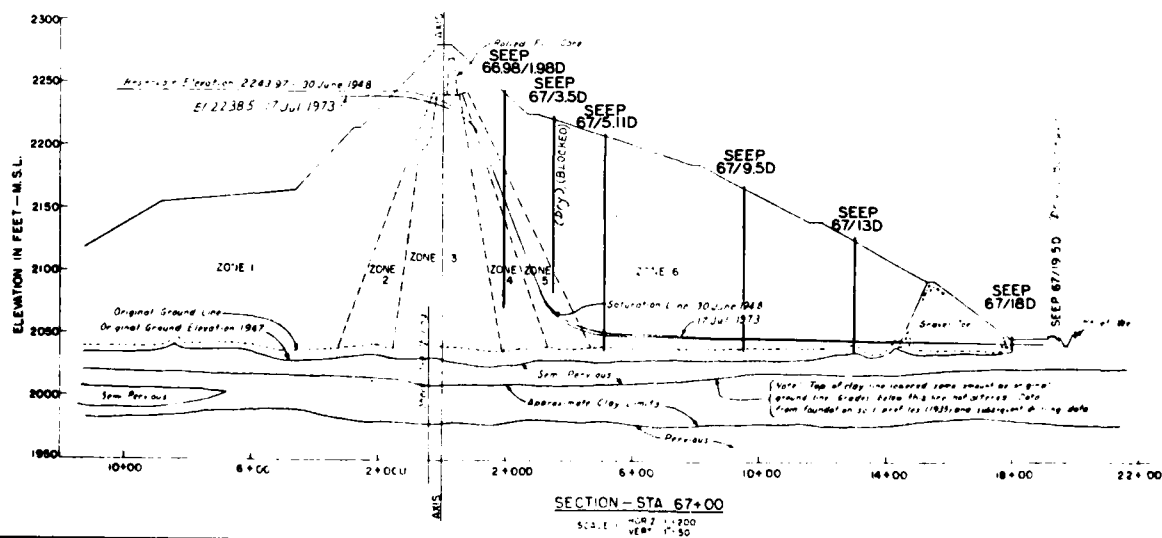
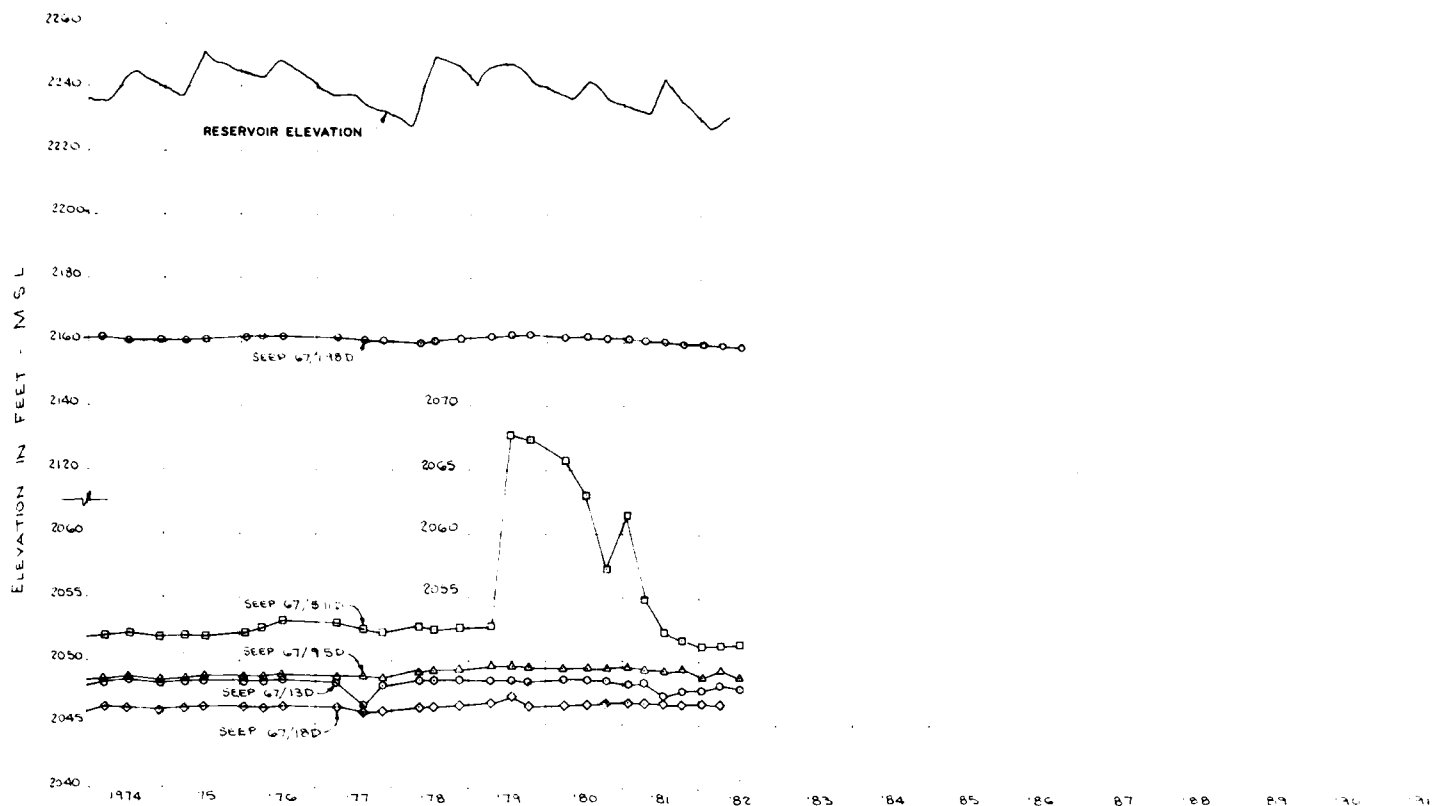
LEGEND:
SEEP SEEPAGE PIPE (PERFORATED)

THIS DRAWING HAS BEEN REDUCED TO
THREE-FOURTHS THE ORIGINAL SIZE

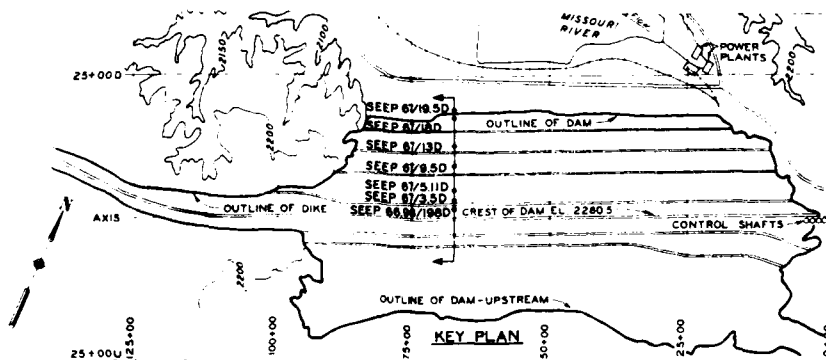


THIS PLAN ACCOMPANIES CONTRACT NO.
MODIFICATION NO.

DATE		DESCRIPTION		MADE	APPROVED
REVISIONS					
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
MISSOURI RIVER FORT PECK LAKE, MONTANA					
SATURATION LINE OBSERVATIONS STA. 67+00					
DESIGNED BY: L. M. G.	CHECKED BY: L. M. G.		DATE		
APPROVED BY:	APPROVED BY:		DATE		
CHIEF ENGINEER'S OFFICE	CHIEF ENGINEER'S OFFICE		DATE		
APPROVED BY:	APPROVED BY:		DATE		
CHIEF ENGINEER'S OFFICE	CHIEF ENGINEER'S OFFICE		DATE		
APPROVED BY:	APPROVED BY:		DATE		
CHIEF ENGINEER'S OFFICE	CHIEF ENGINEER'S OFFICE		DATE		



85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 2000 01 02



SEEP
67/180

SEEP 67/18.50

THIS DRAWING HAS BEEN REDUCED TO
THREE-FIFTHS THE ORIGINAL SCALE.

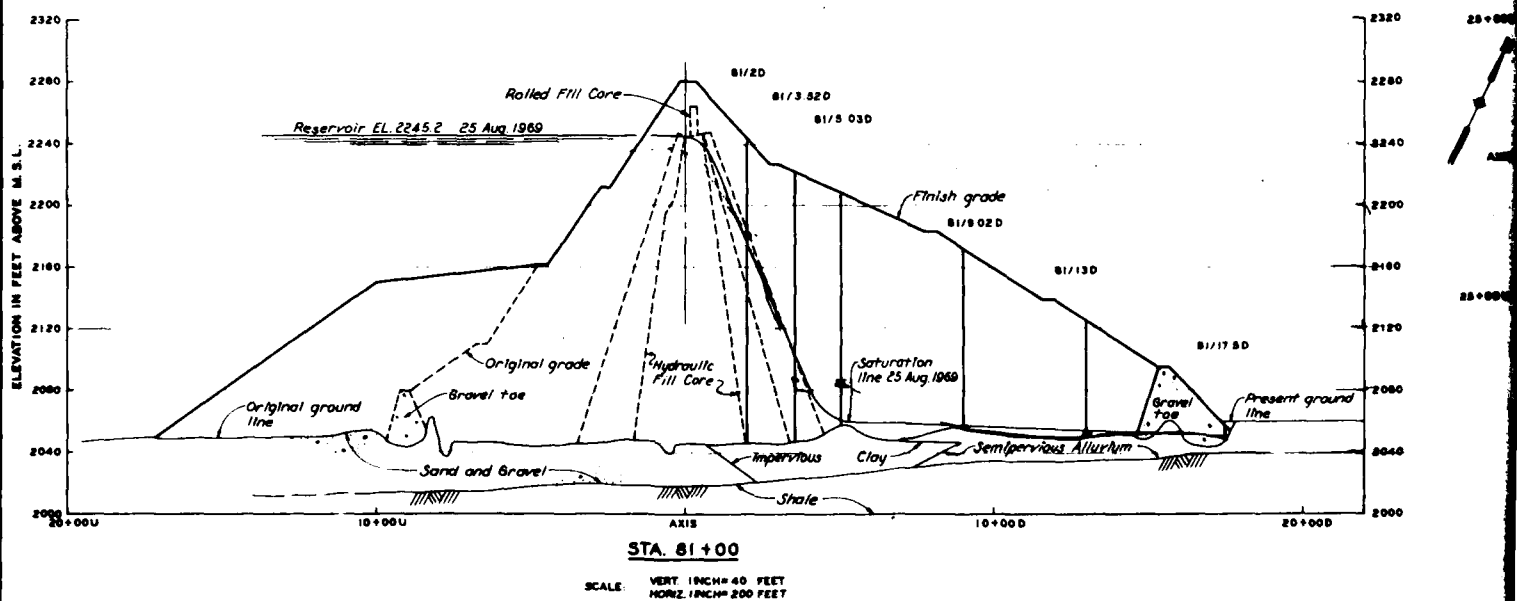
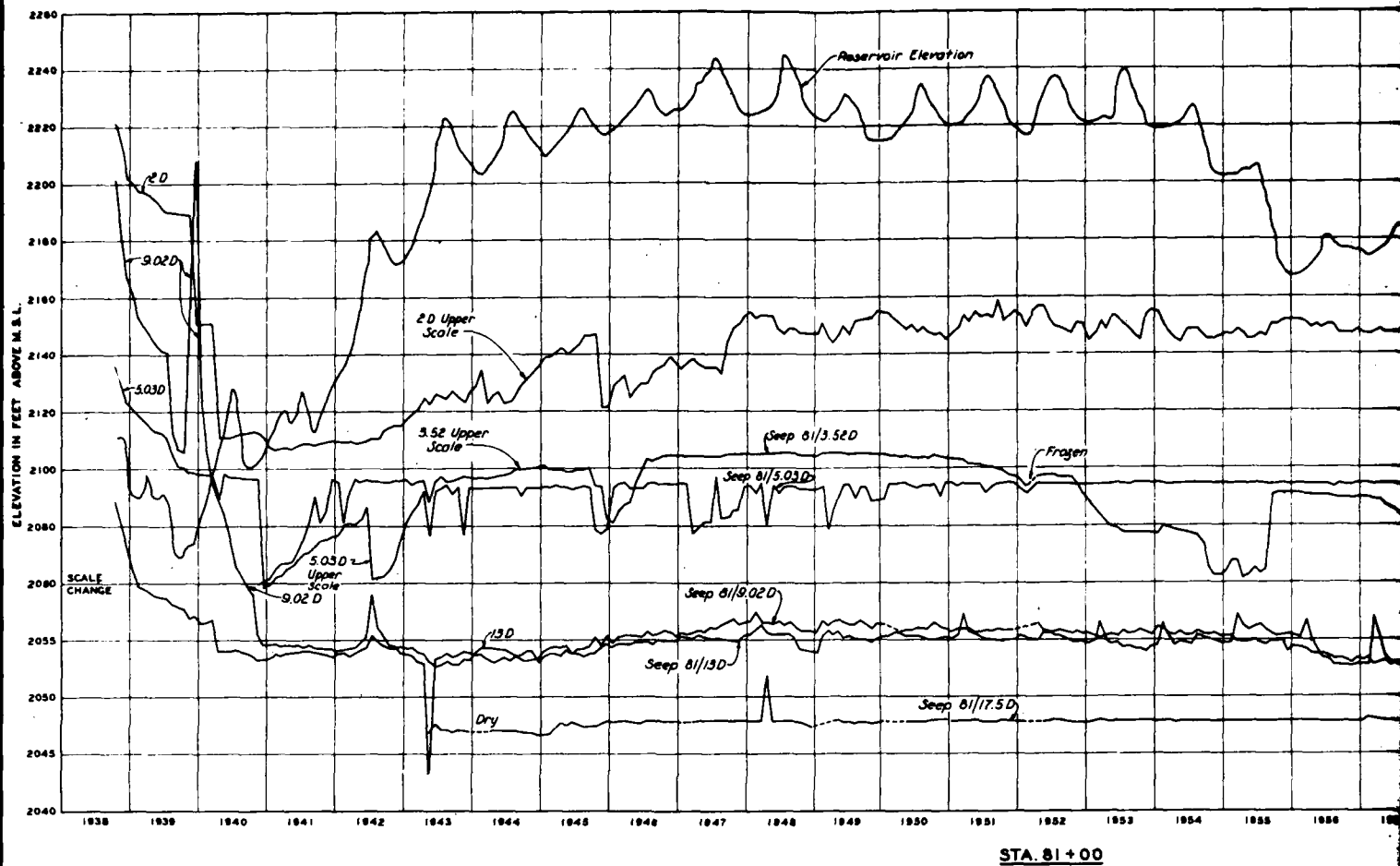


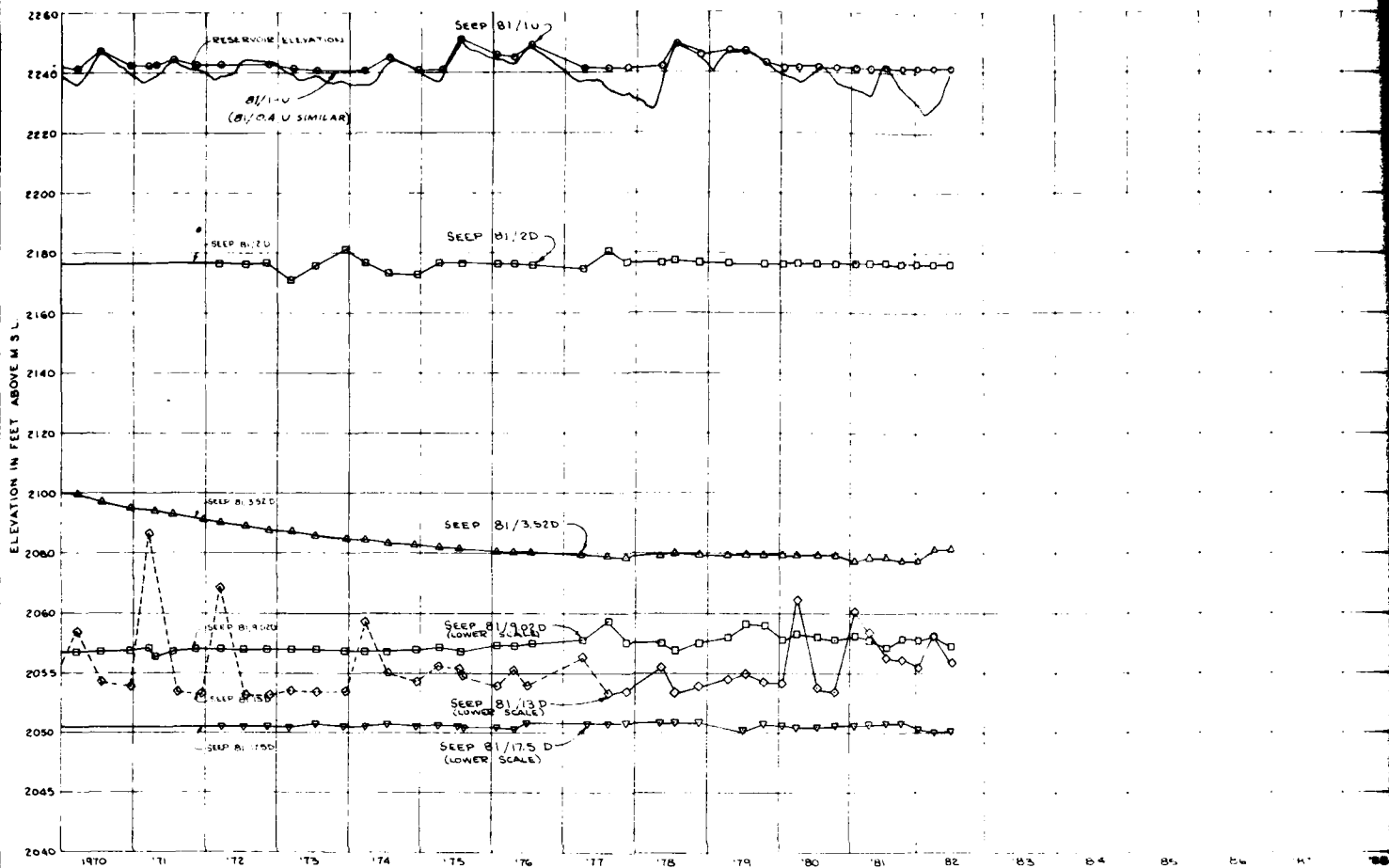
THIS PLAN ACCOMPANIES CONTRACT NO.
MODIFICATION NO.

DATE	DESCRIPTION	MADE	APPROVED
REVISIONS			
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA			
FORT PECK LAKE, MONTANA			
SATURATION LINE OBSERVATIONS			
STATION 67+00			
DESIGNED BY	SECTION	APPROVED	DATE
DRAWN BY	SECTION	APPROVED	DATE
CHECKED BY	SECTION	APPROVED	DATE
APPROVED	SECTION	APPROVED	DATE
SCALE AS SHOWN		SHEET NO.	
DRAWING NUMBER		SHEET	

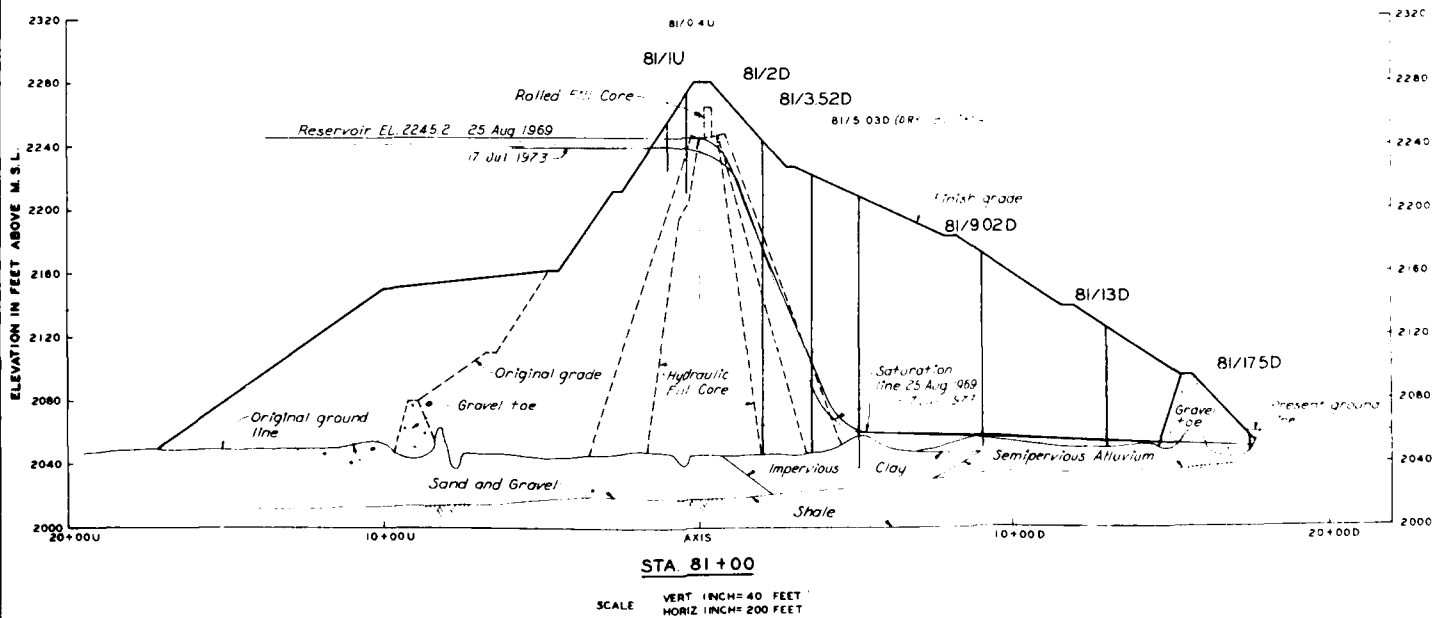
FORT PECK DAM AND RESERVOIR EMBANKMENT CRITERIA AND PERFORMANCE REPORT PLATE 7-67

2

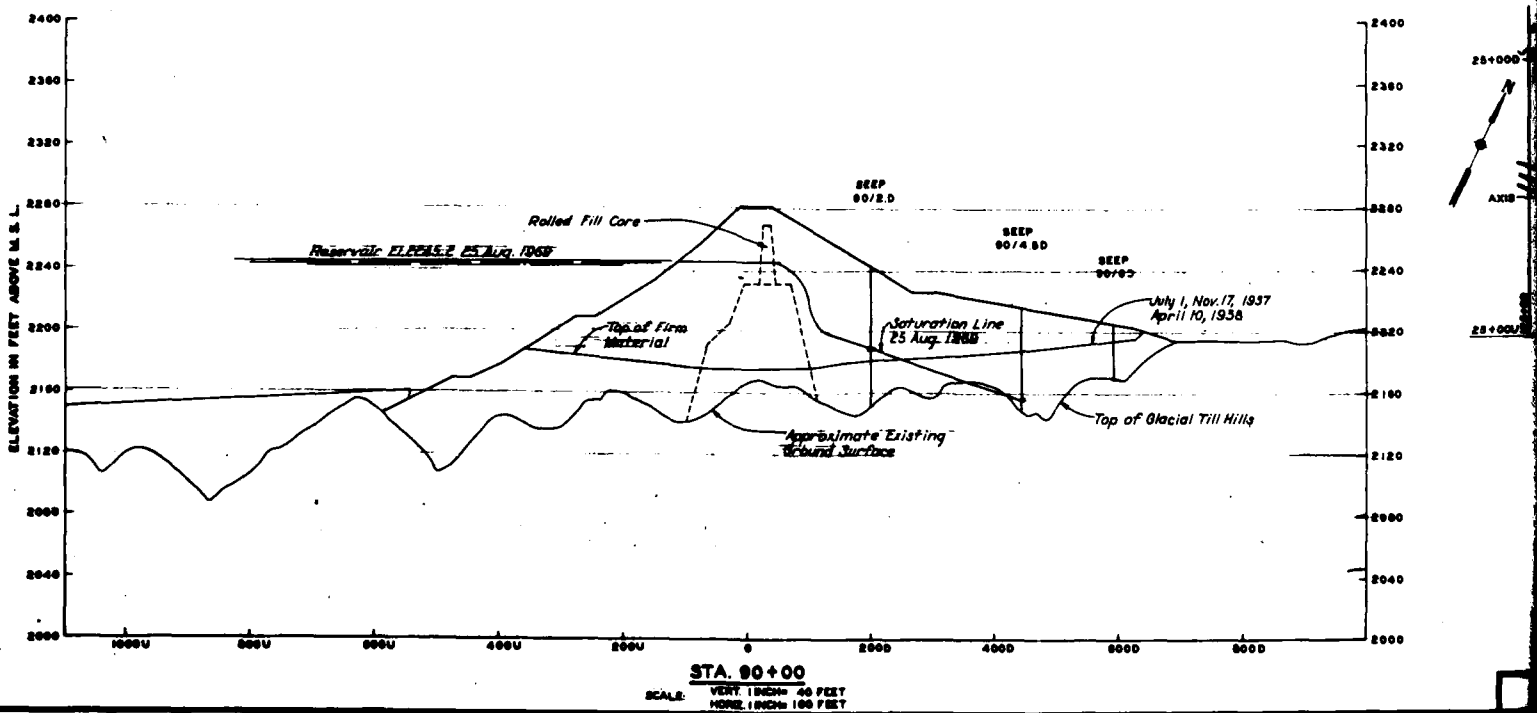
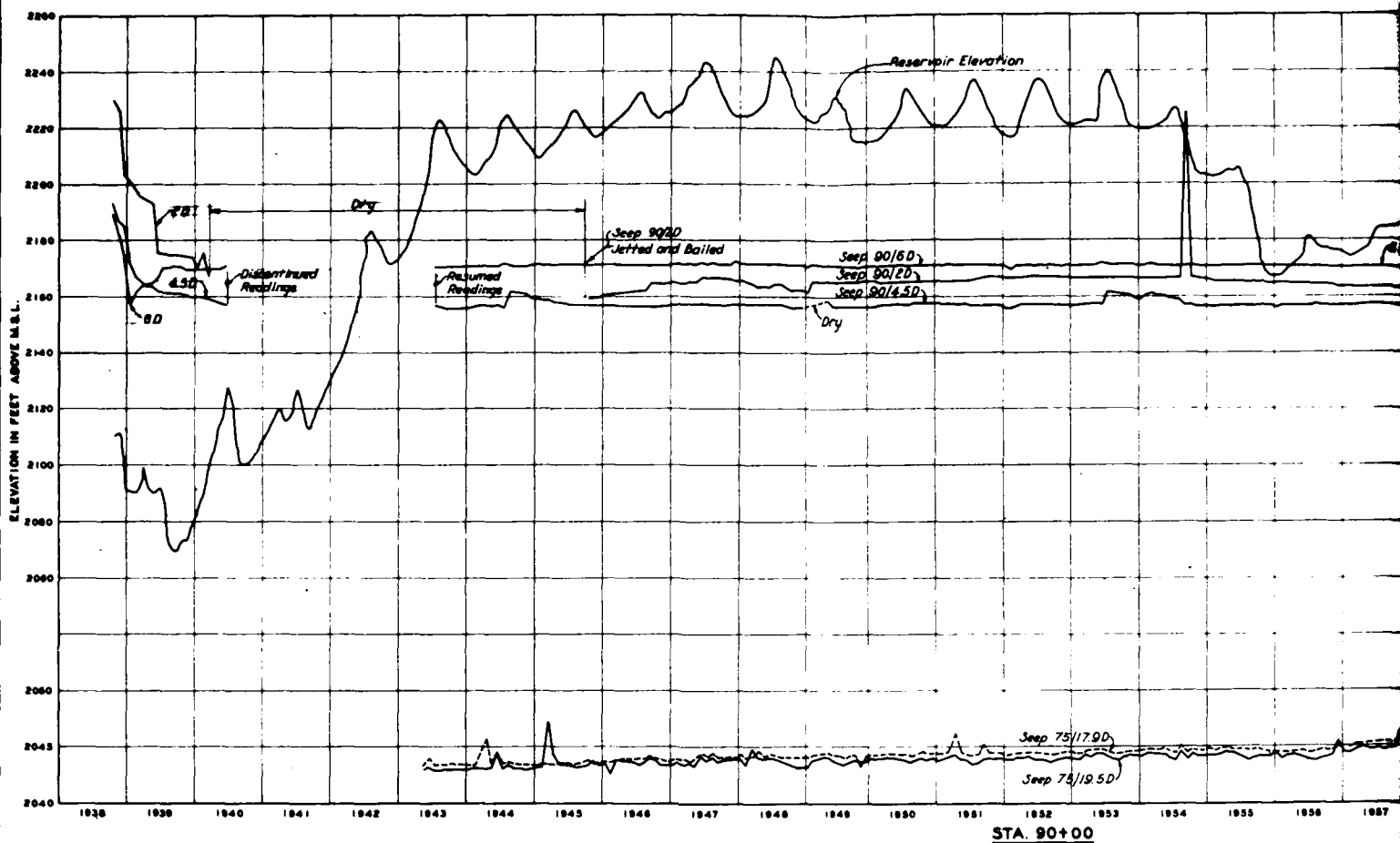




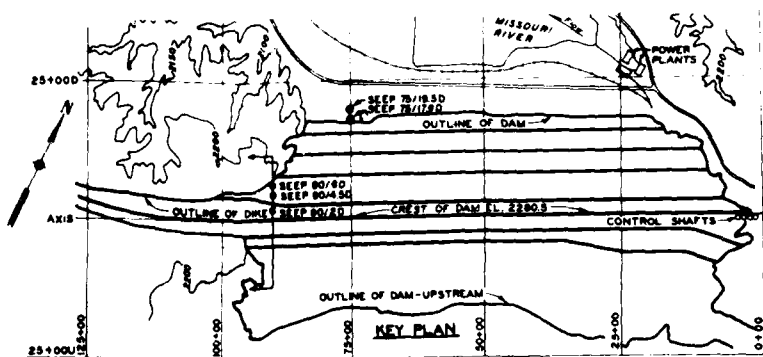
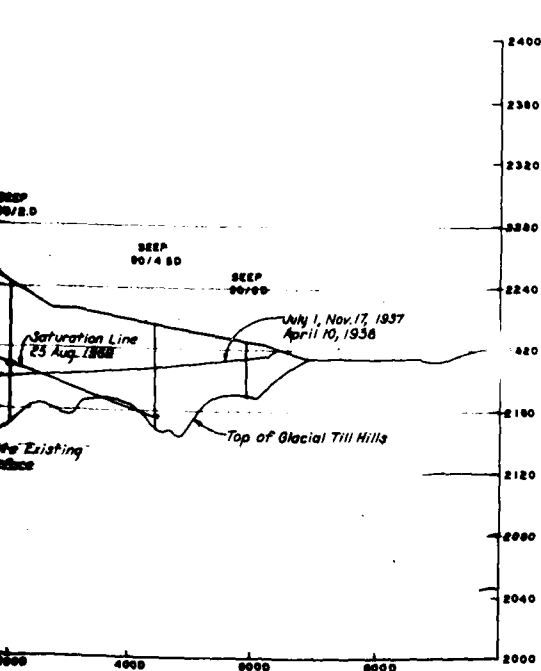
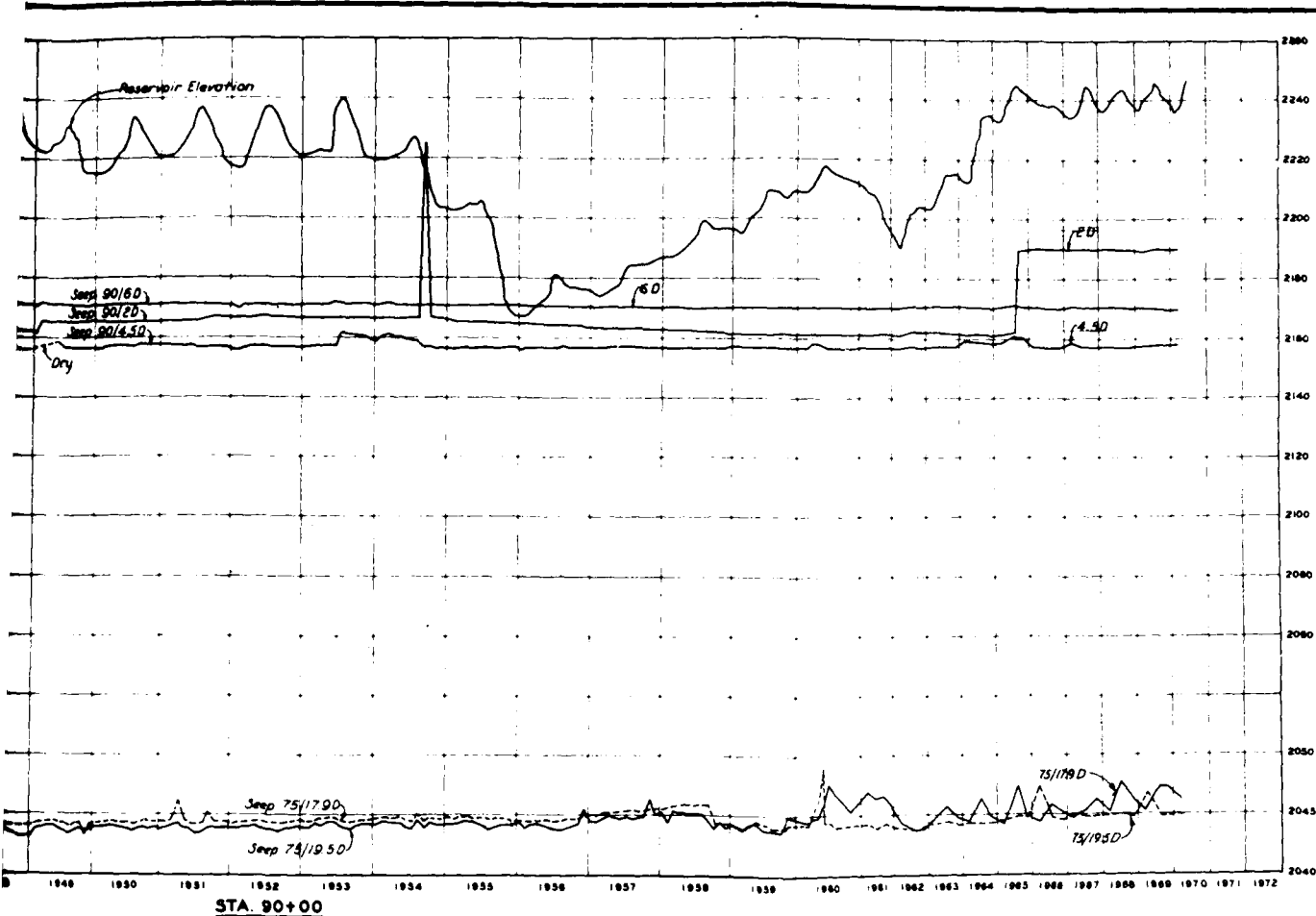
STA 81+00







FORT PECK DAM AND RESERVOIR

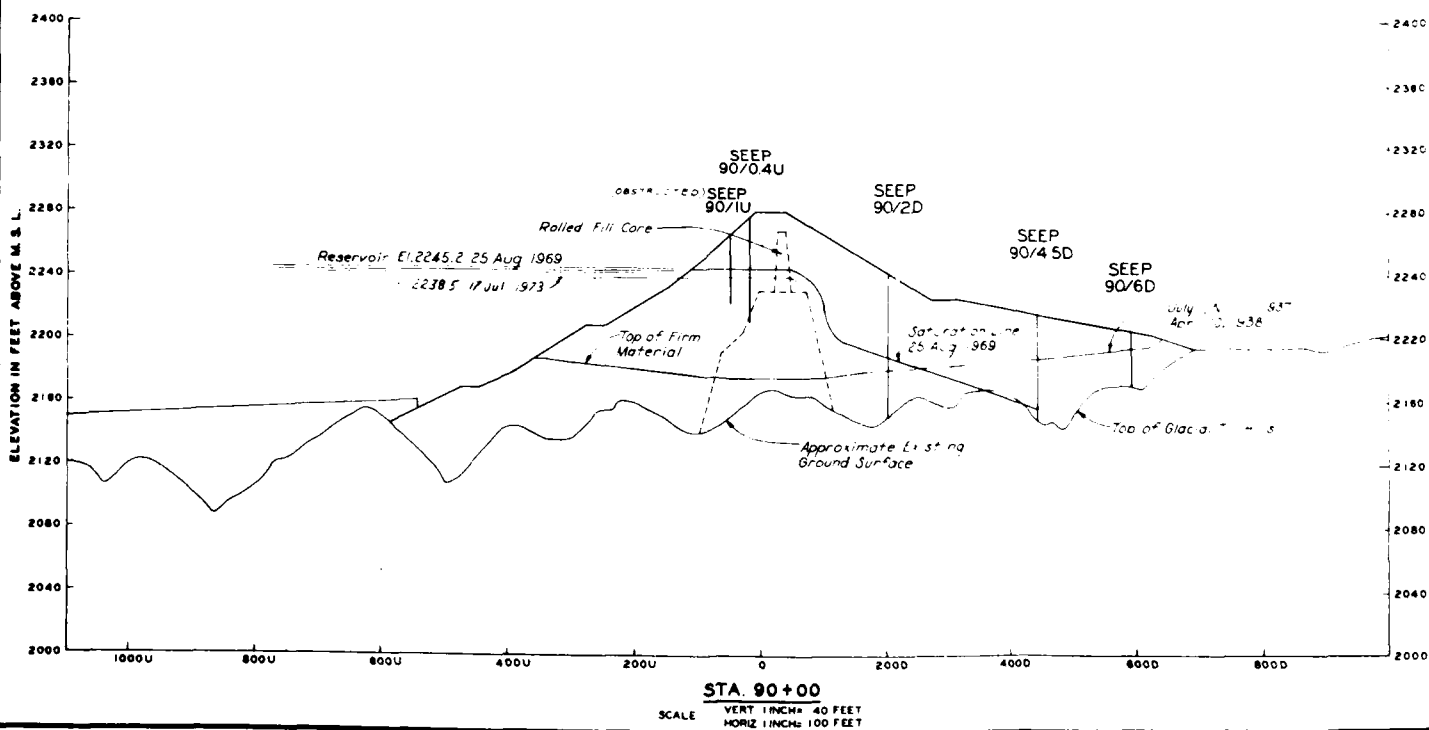
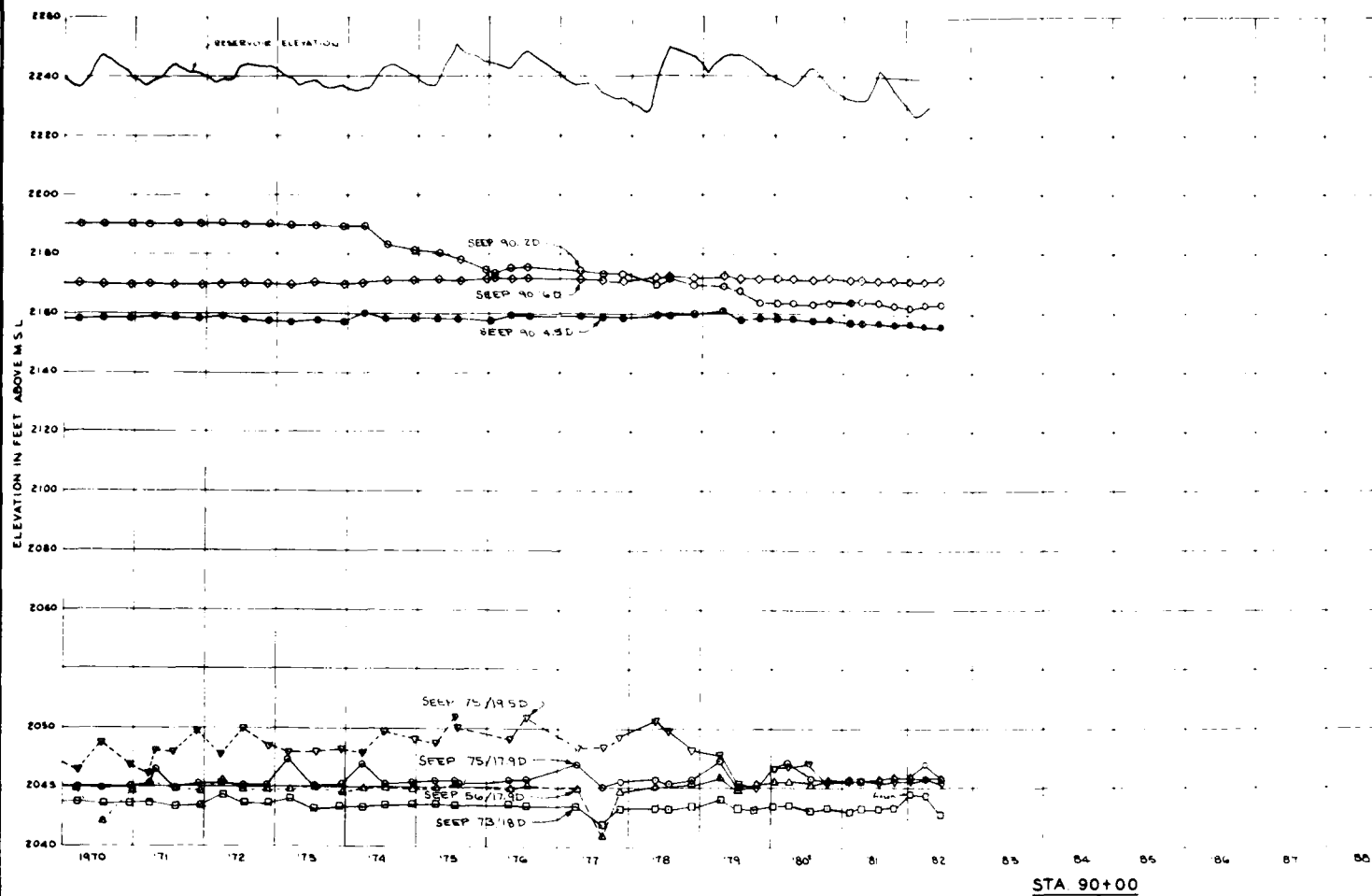


DATE		REVISIONS		MADE		APPROVED	
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA							
MISSOURI RIVER FORT PECK LAKE, MONTANA SATURATION LINE OBSERVATIONS STA. 90+00							
DESIGNED BY	CHECKED BY	APPROVED BY	DATE	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
DESIGNED BY	CHECKED BY	APPROVED BY	DATE	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
DESIGNED BY	CHECKED BY	APPROVED BY	DATE	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
DESIGNED BY	CHECKED BY	APPROVED BY	DATE	DESIGNED BY	CHECKED BY	APPROVED BY	DATE

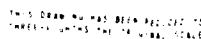
FORT PECK DAM AND RESERVOIR

EMBANKMENT CRITERIA AND PERFORMANCE REPORT

PLATE 7-70



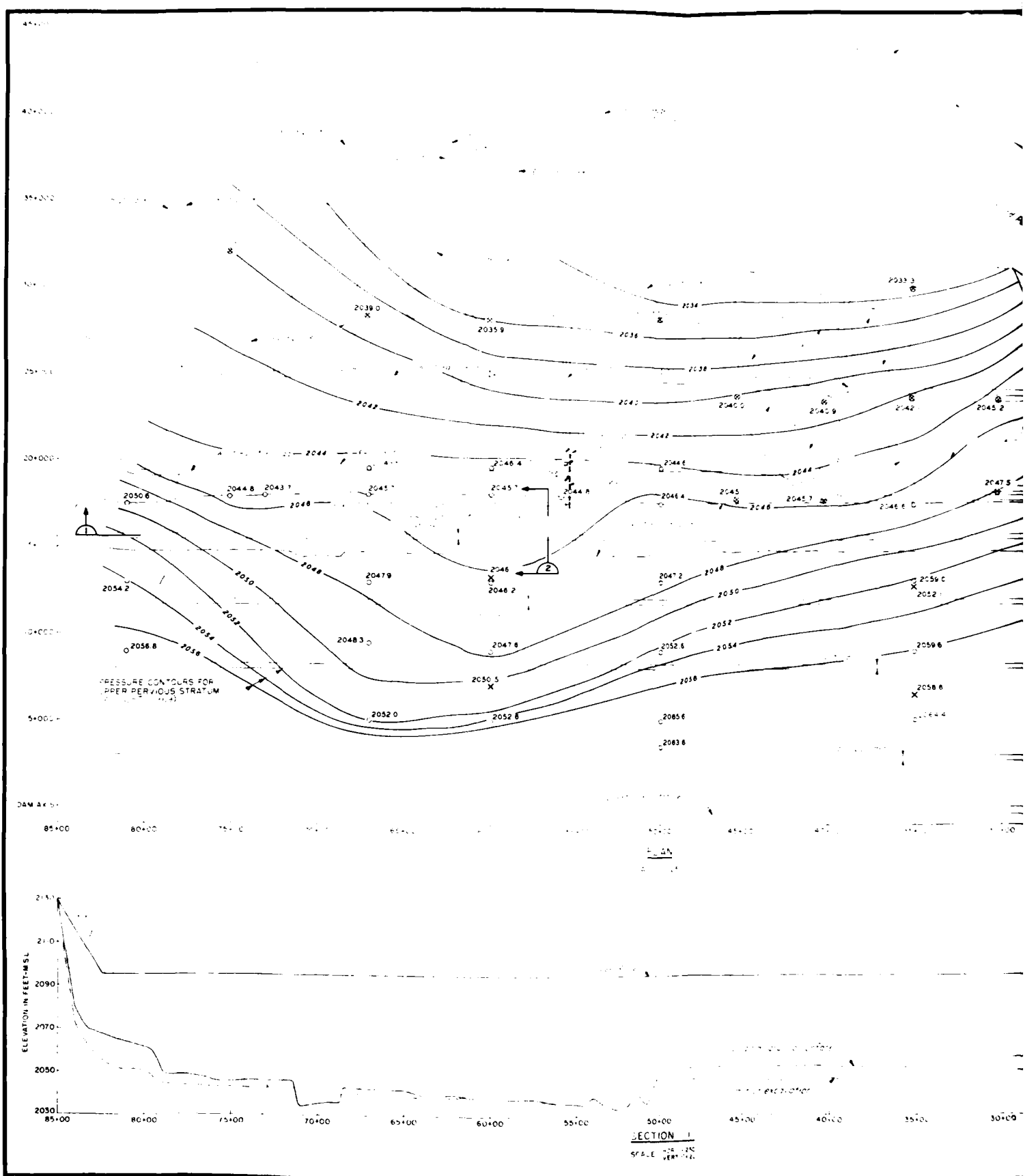
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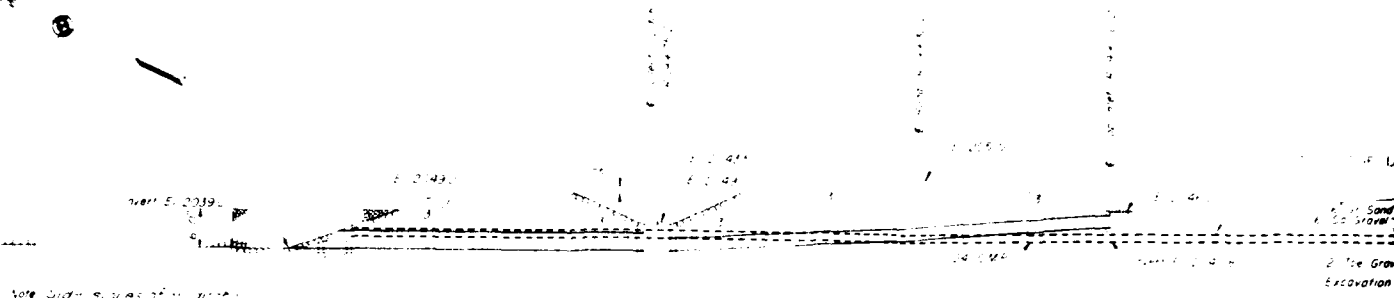


THIS PLAN ACCOMPANIES CONTRACT NO. _____
MODIFICATION NO. _____

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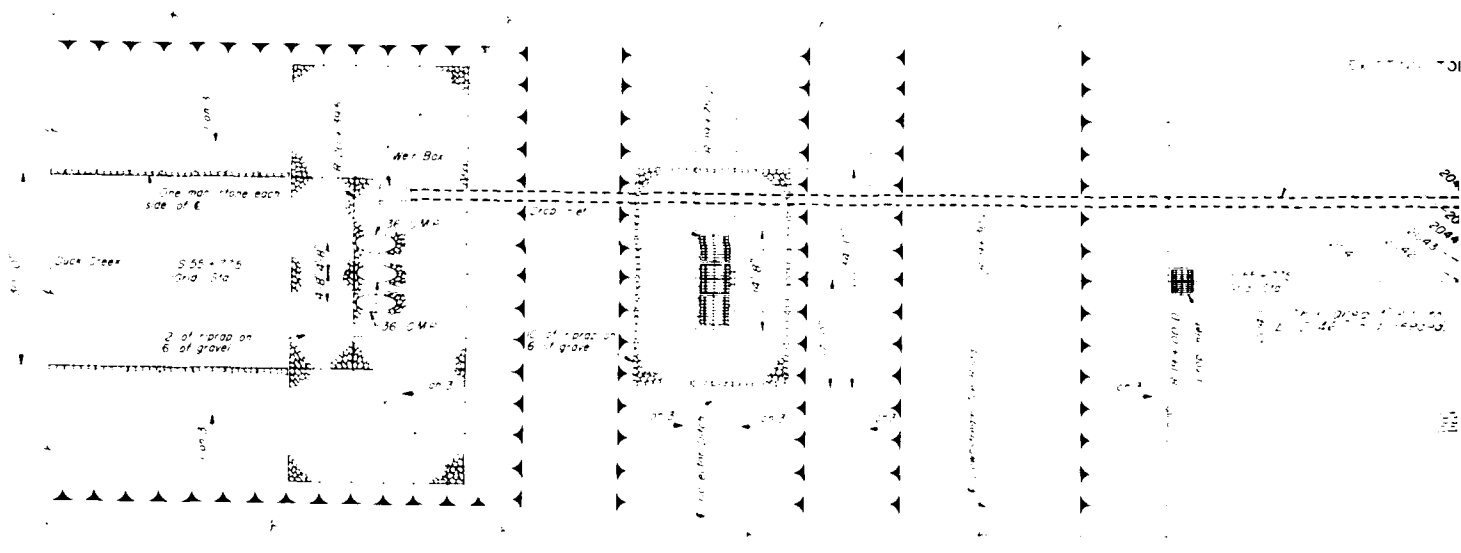
FORT PECK DAM AND RESERVOIR EMBANKMENT CRITERIA AND PERFORMANCE REPORT PLATE 7-71





Note: Under the grade of the bridge, the ground is to be excavated to the level of the proposed grade.

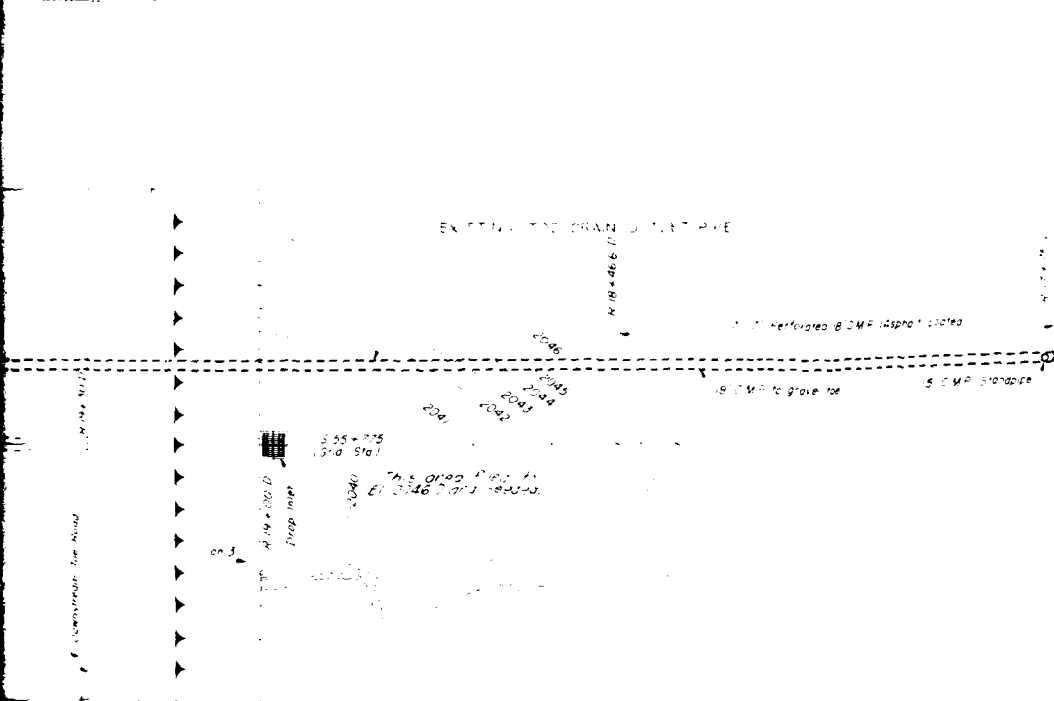
PROFILE AT DUCK CREEK INTERSECTION



PLAN AT DUCK CREEK INTERSECTION

FILE AT DUCK CREEK INTERSECTION

SCALE



CREEK INTERSECTION

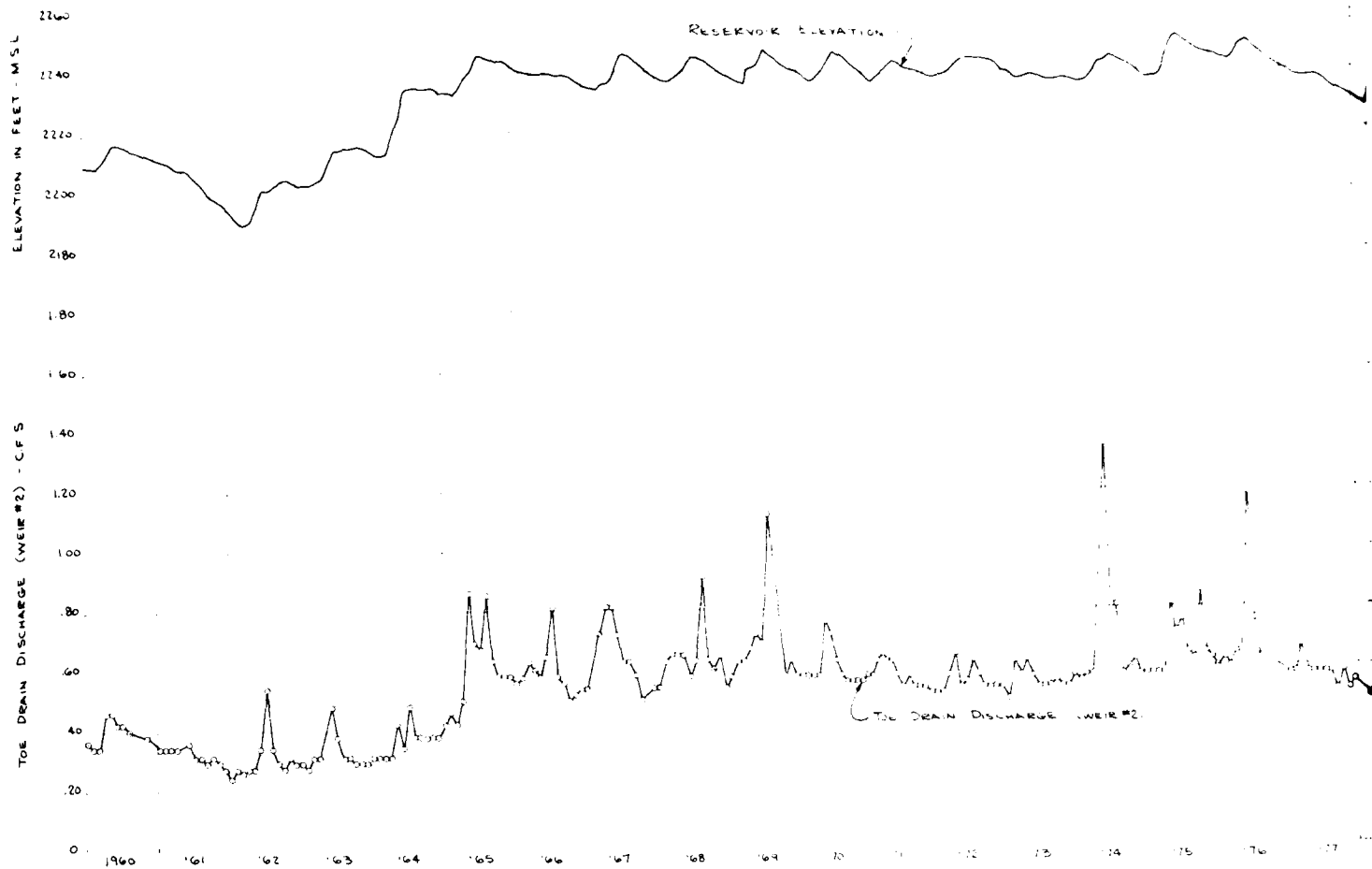
SCALE

NOTE

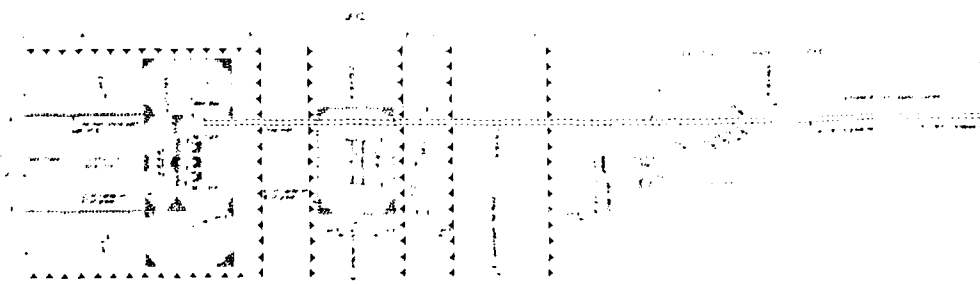
1. See original contract drawing No. R296 930-11
2. General notes on existing toe drain outlet pipe shown on Plate 1

THIS DRAWING HAS BEEN REDUCED TO
 1/4\"/>

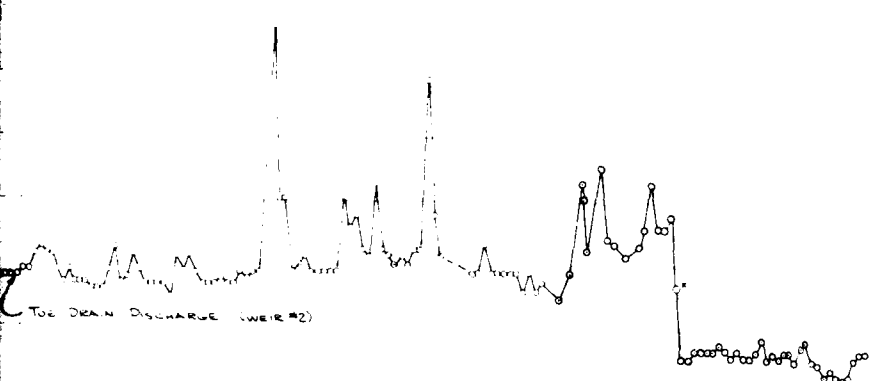
REVISIONS		DATE	DESCRIPTION	MADE	APPROVED
<p>U S ARMY ENGINEER DISTRICT OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA</p>					
<p>MISSOURI RIVER</p>					
<p>FORT PECK DAM AND RESERVOIR</p>					
<p>TOE DRAIN REPORT</p>					
<p>DETAILS OF EXISTING TOE DRAIN OUTLET PIPE AFTER REPAIRS OF SEPTEMBER 1956</p>					
DESIGNED BY					
DRAWN BY					
CHECKED BY					
APPROVED BY					
CHIEF EMB PCH. A.B. SEC.					
CHIEF EMB PCH. B. SEC.					
CHIEF EMB PCH. C. SEC.					
CHIEF EMB PCH. D. SEC.					
CHIEF EMB PCH. E. SEC.					
CHIEF EMB PCH. F. SEC.					
CHIEF EMB PCH. G. SEC.					
CHIEF EMB PCH. H. SEC.					
CHIEF EMB PCH. I. SEC.					
CHIEF EMB PCH. J. SEC.					
CHIEF EMB PCH. K. SEC.					
CHIEF EMB PCH. L. SEC.					
CHIEF EMB PCH. M. SEC.					
CHIEF EMB PCH. N. SEC.					
CHIEF EMB PCH. O. SEC.					
CHIEF EMB PCH. P. SEC.					
CHIEF EMB PCH. Q. SEC.					
CHIEF EMB PCH. R. SEC.					
CHIEF EMB PCH. S. SEC.					
CHIEF EMB PCH. T. SEC.					
CHIEF EMB PCH. U. SEC.					
CHIEF EMB PCH. V. SEC.					
CHIEF EMB PCH. W. SEC.					
CHIEF EMB PCH. X. SEC.					
CHIEF EMB PCH. Y. SEC.					
CHIEF EMB PCH. Z. SEC.					



* We
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 Rel



PLAN AT DUCK CREEK INTERSECTION



1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988

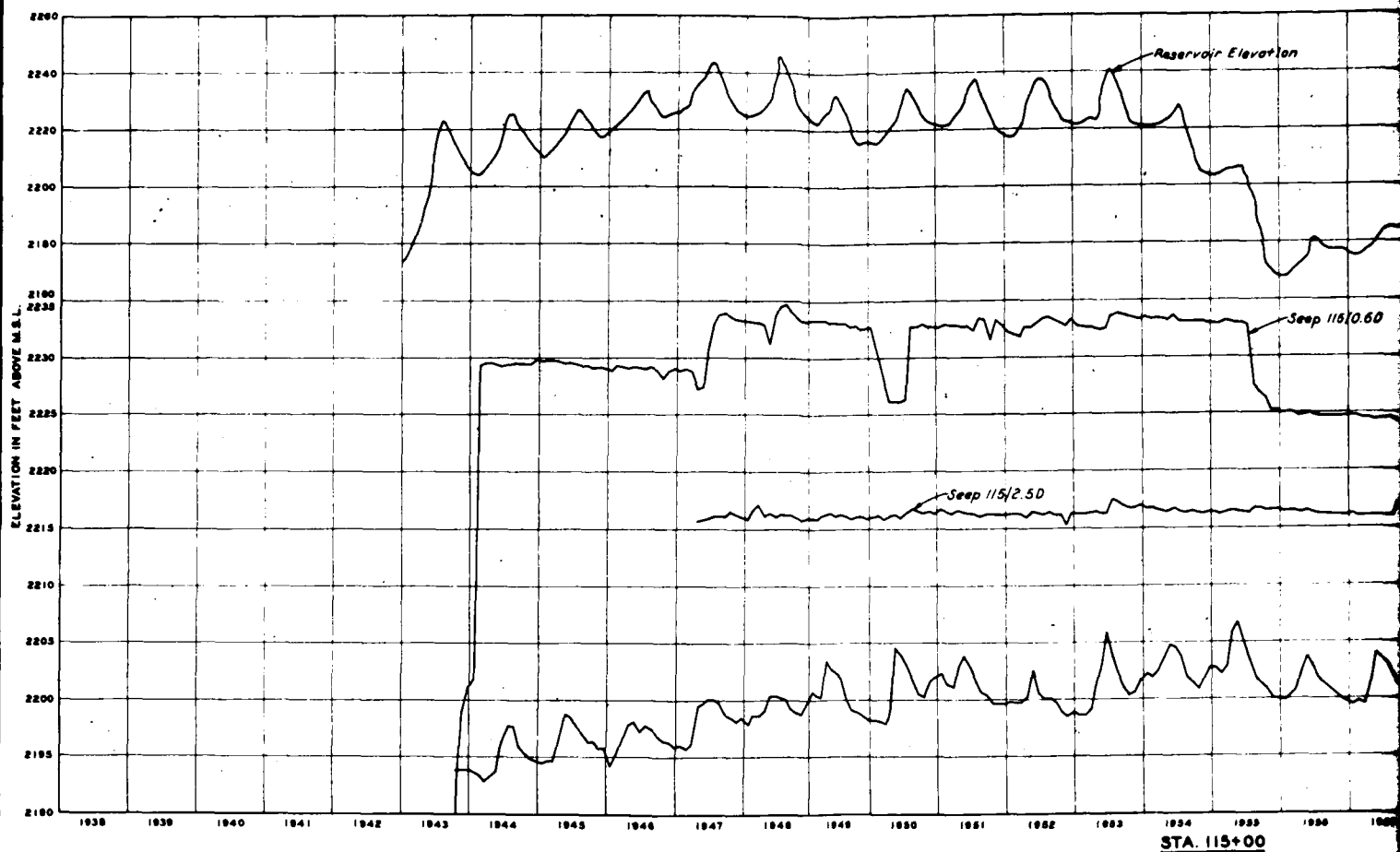
*Weir not definitive data due to
 drainage dam and unknown
 fluctuations Fall 1979

THIS DRAWING HAS BEEN REDUCED TO
 THREE-FOURTHS THE ORIGINAL SCALE.

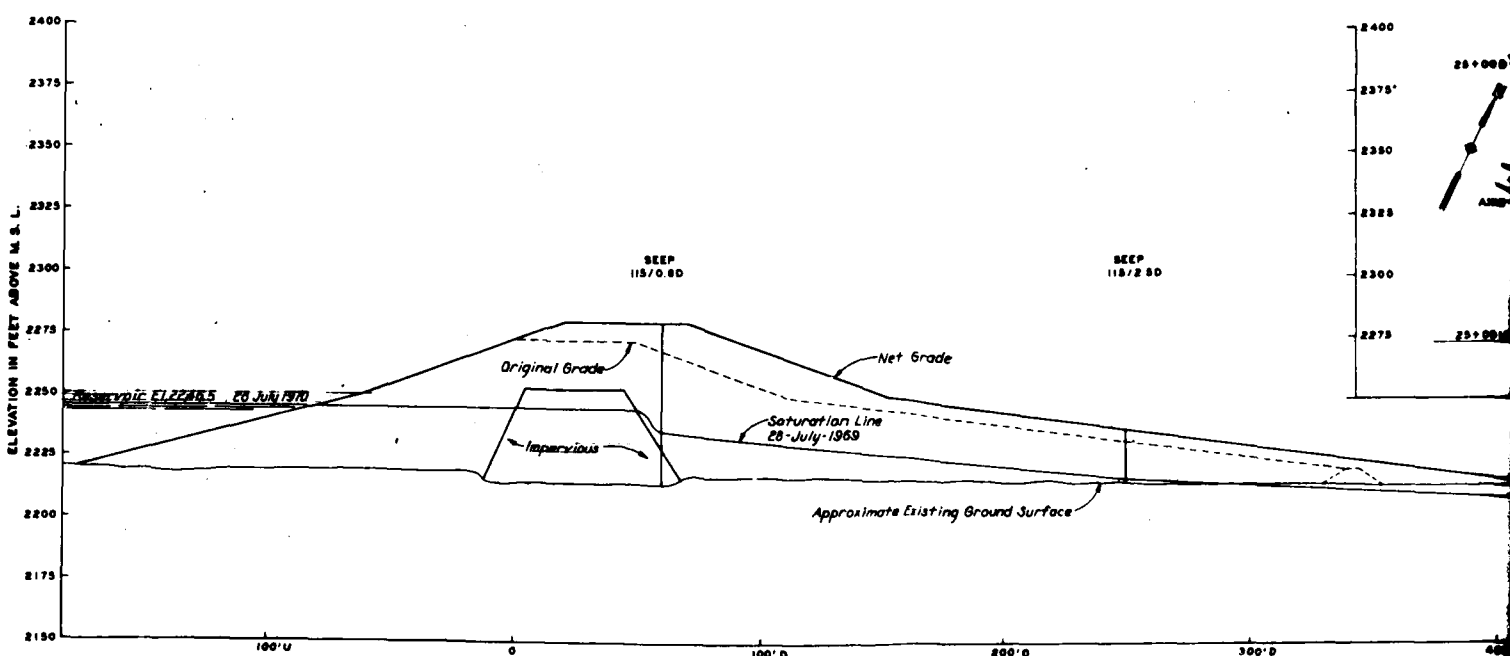
DATE		DESCRIPTION		MADE	APPROVED
REVISIONS					
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
DESIGNED BY		MISSOURI RIVER FORT PECK DAM			
CHECKED BY		TCE DRAIN DISCHARGE (S.N.C. 1960)			
SUBMITTED BY					
ENGINEER	SECTION	APPROVED	DATE		
ENGINEER	SECTION	ENGINEERING DIVISION	SCALE AS SHOWN		SHEET NO.
APPROVED		DRAWING NUMBER			
Sgt. E. L. DETROIT ENGINEER		ENGINEER			



THIS PLAN ACCOMPANIES CONTRACT NO.
 MODIFICATION NO.



STA. 115+00



STA. 115+00

SCALE VERT. 1 INCH = 20 FEET
HORIZ. 1 INCH = 250 FEET

FORT PECK DAM AND RESERVOIR

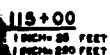
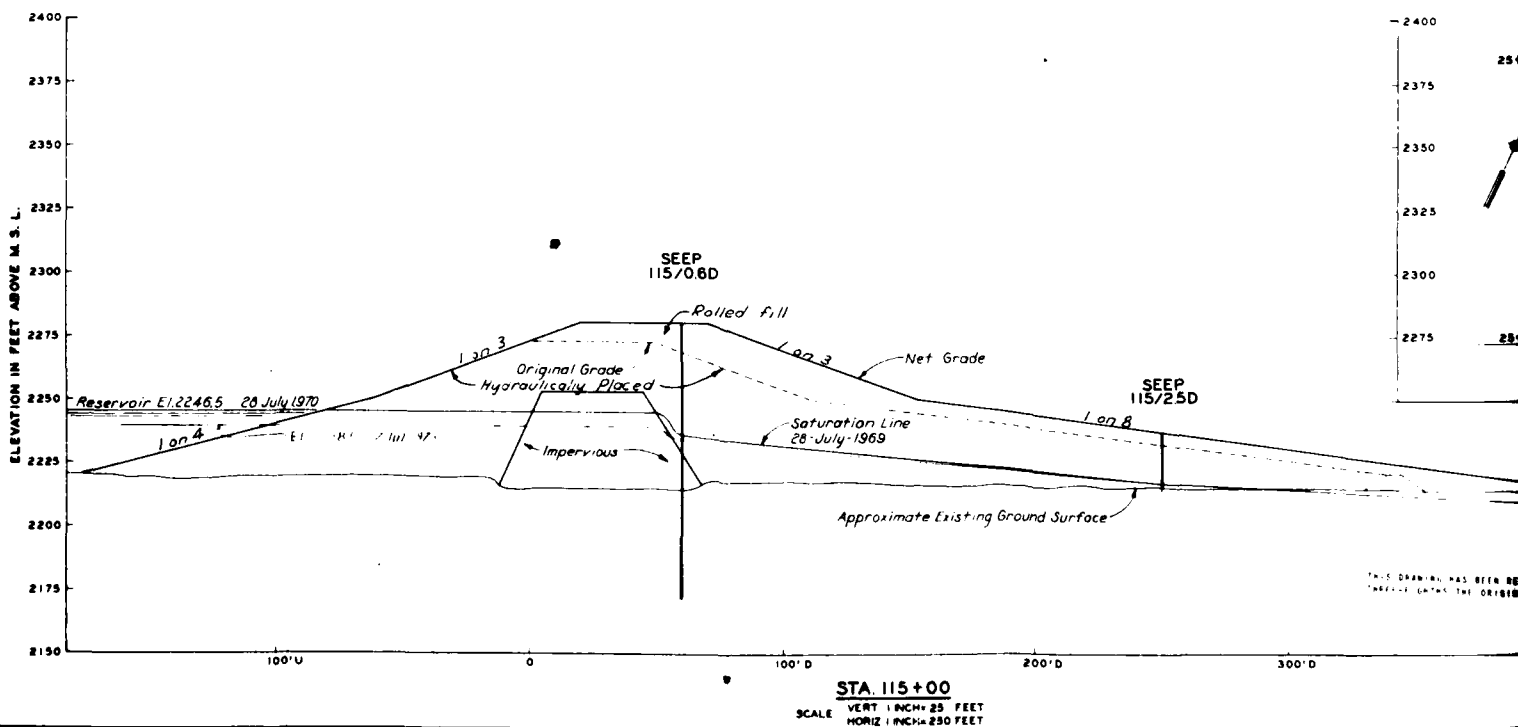
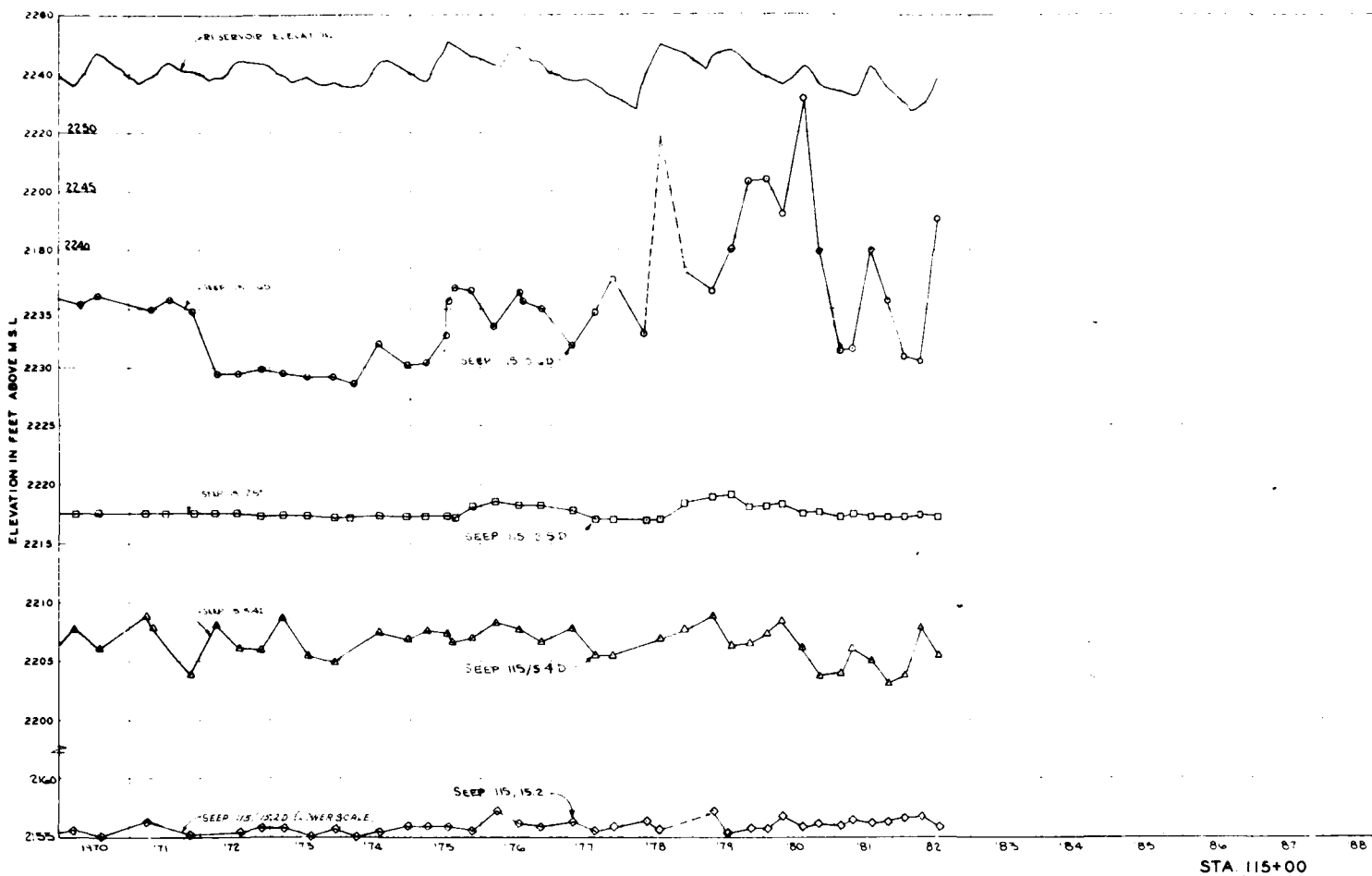
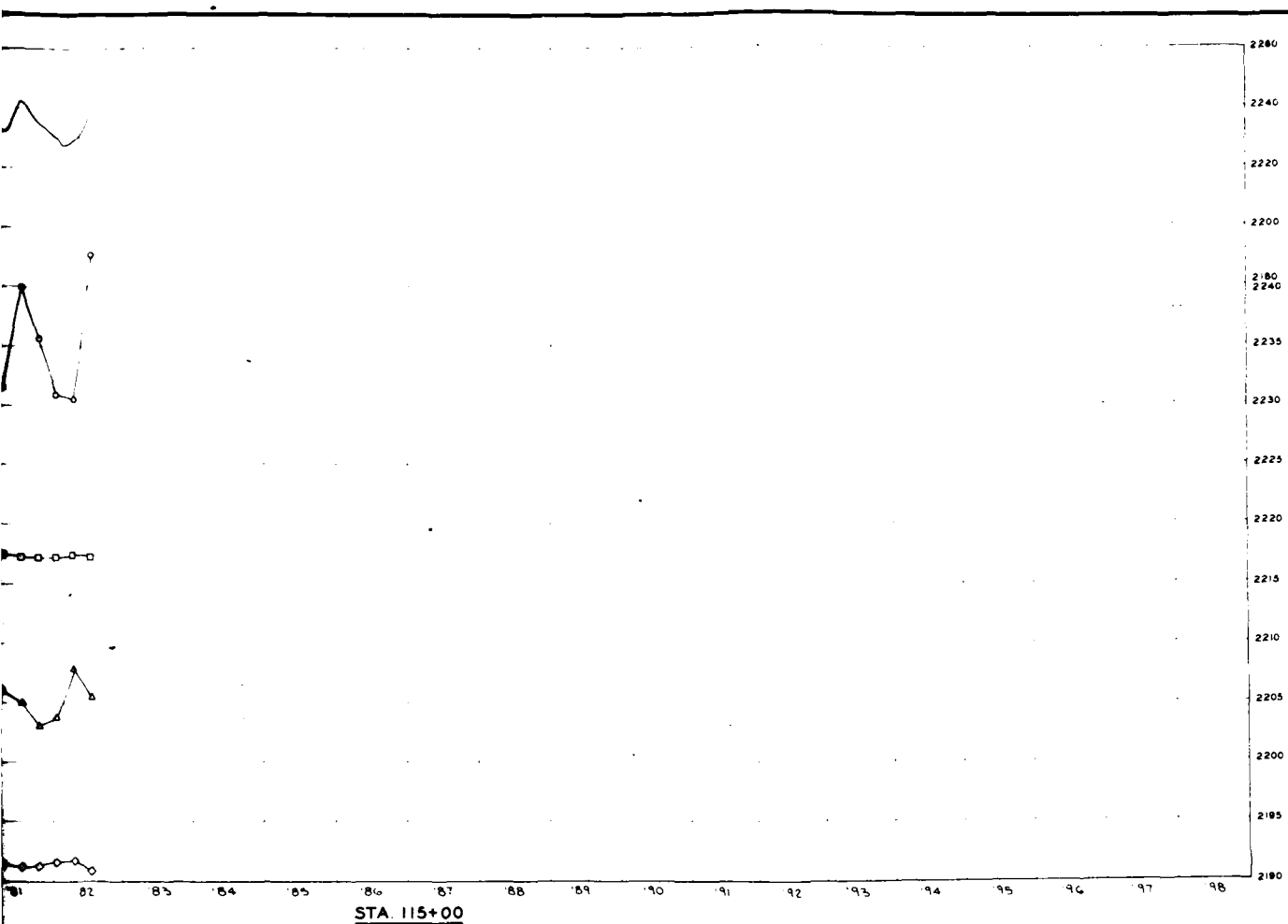
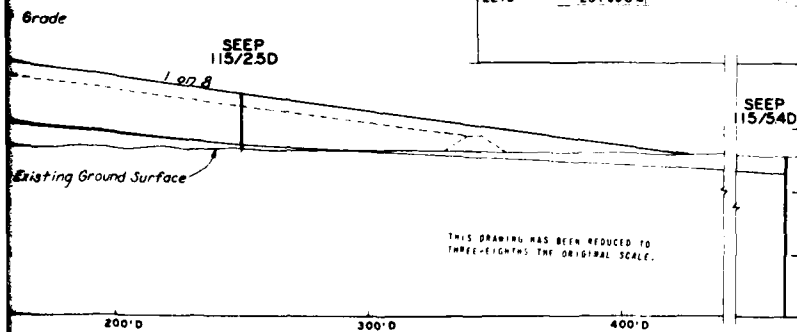
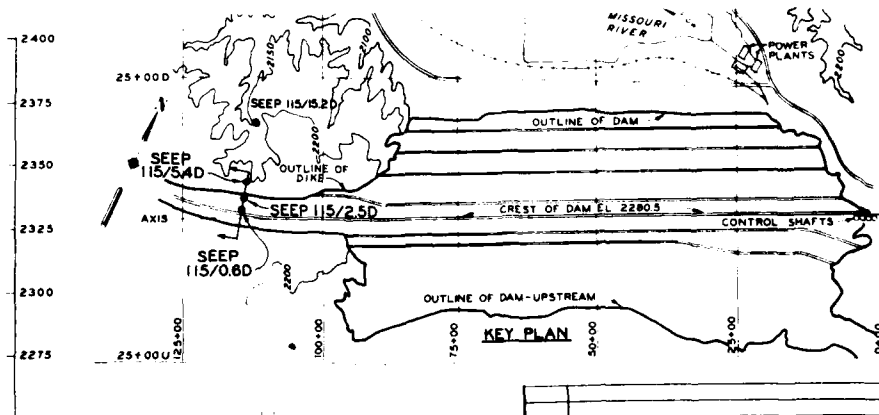


PLATE 7-75

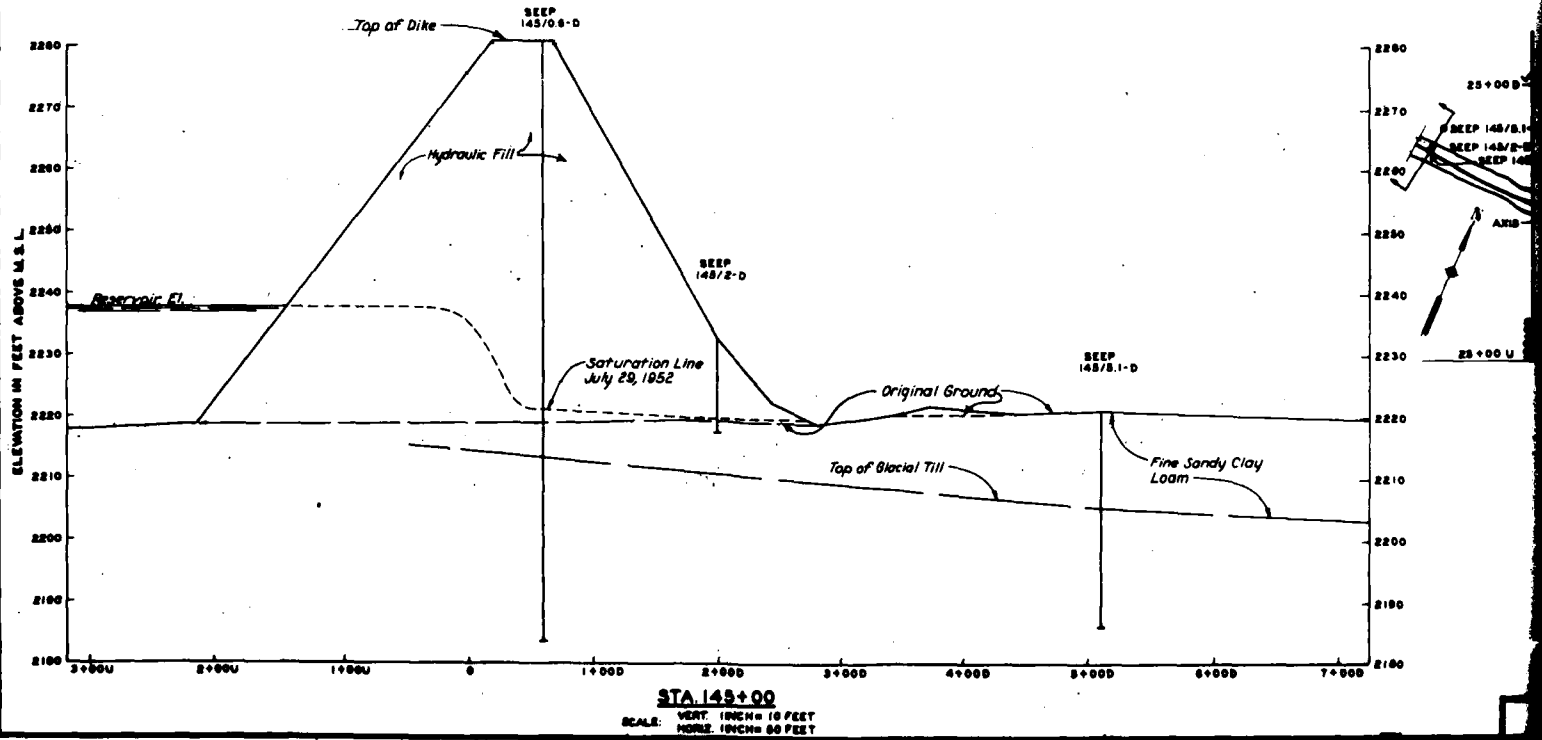
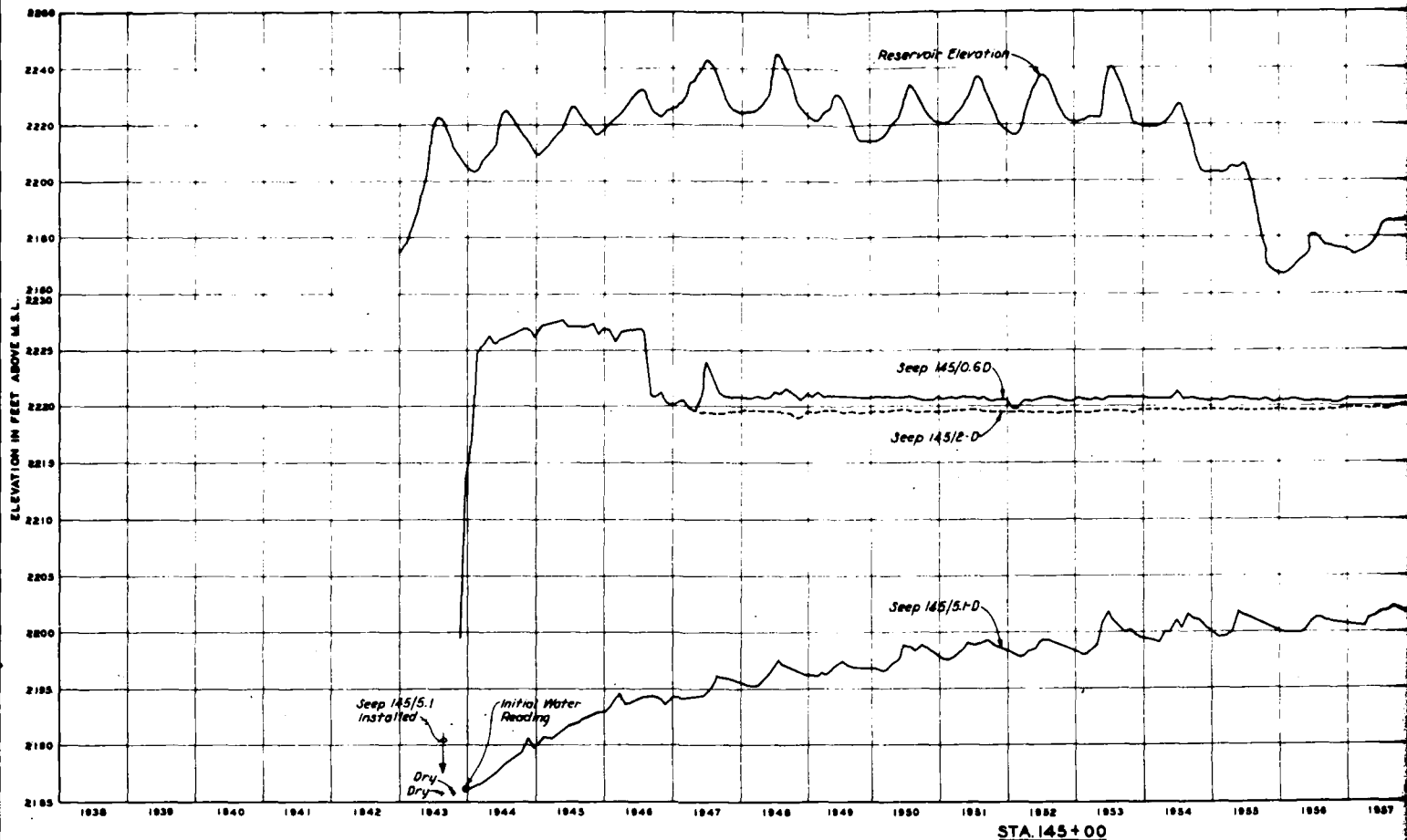




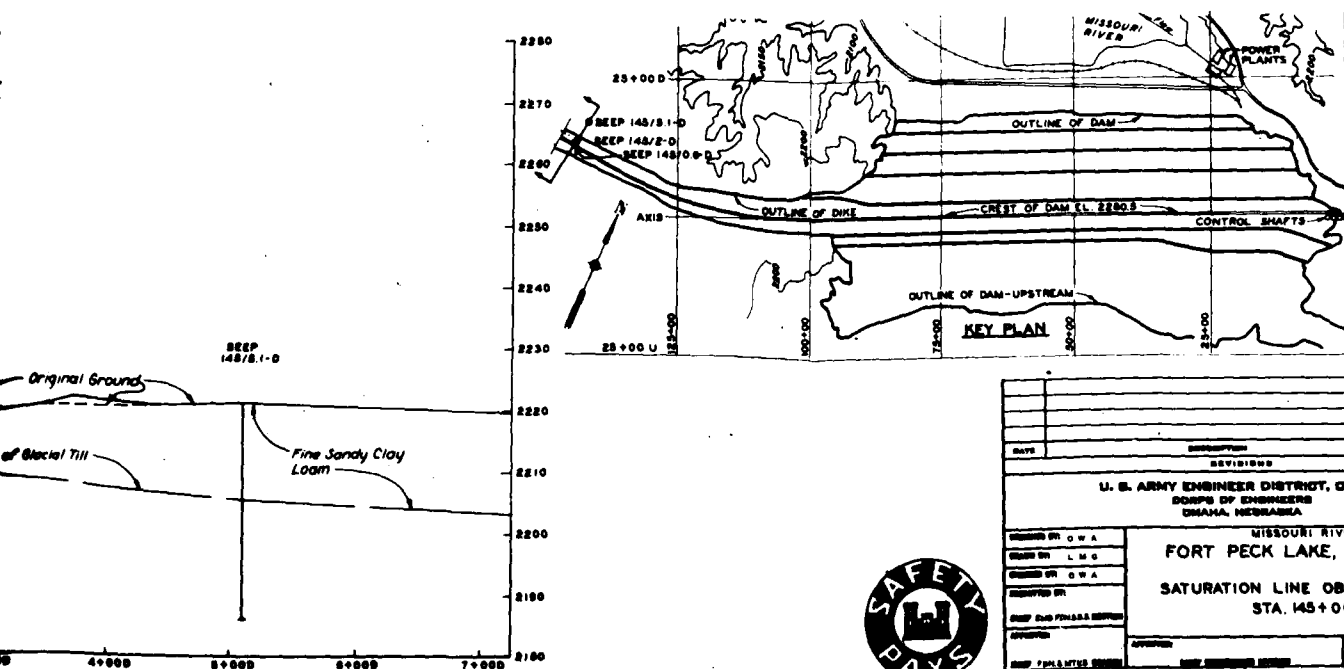
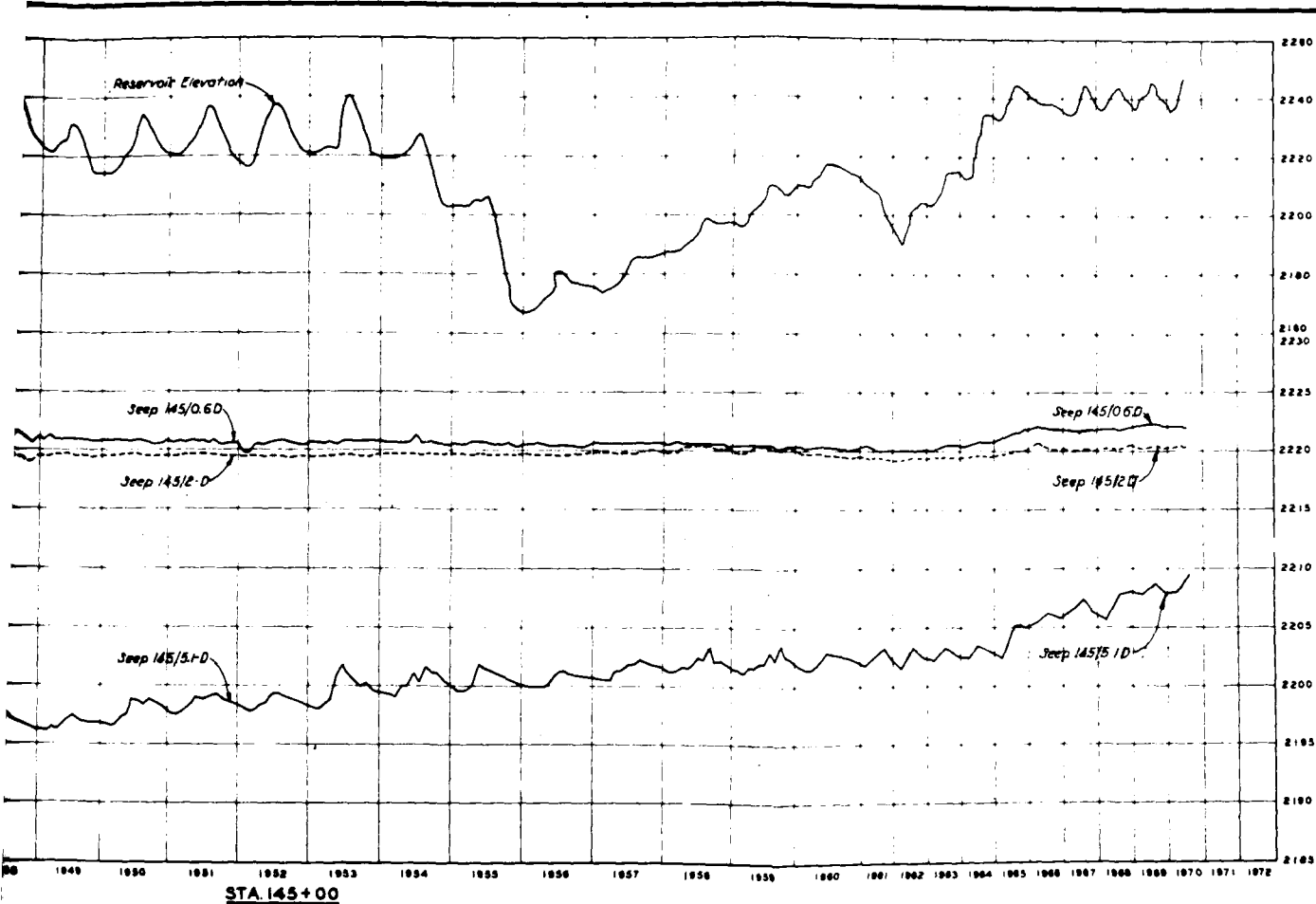
STA. 115+00



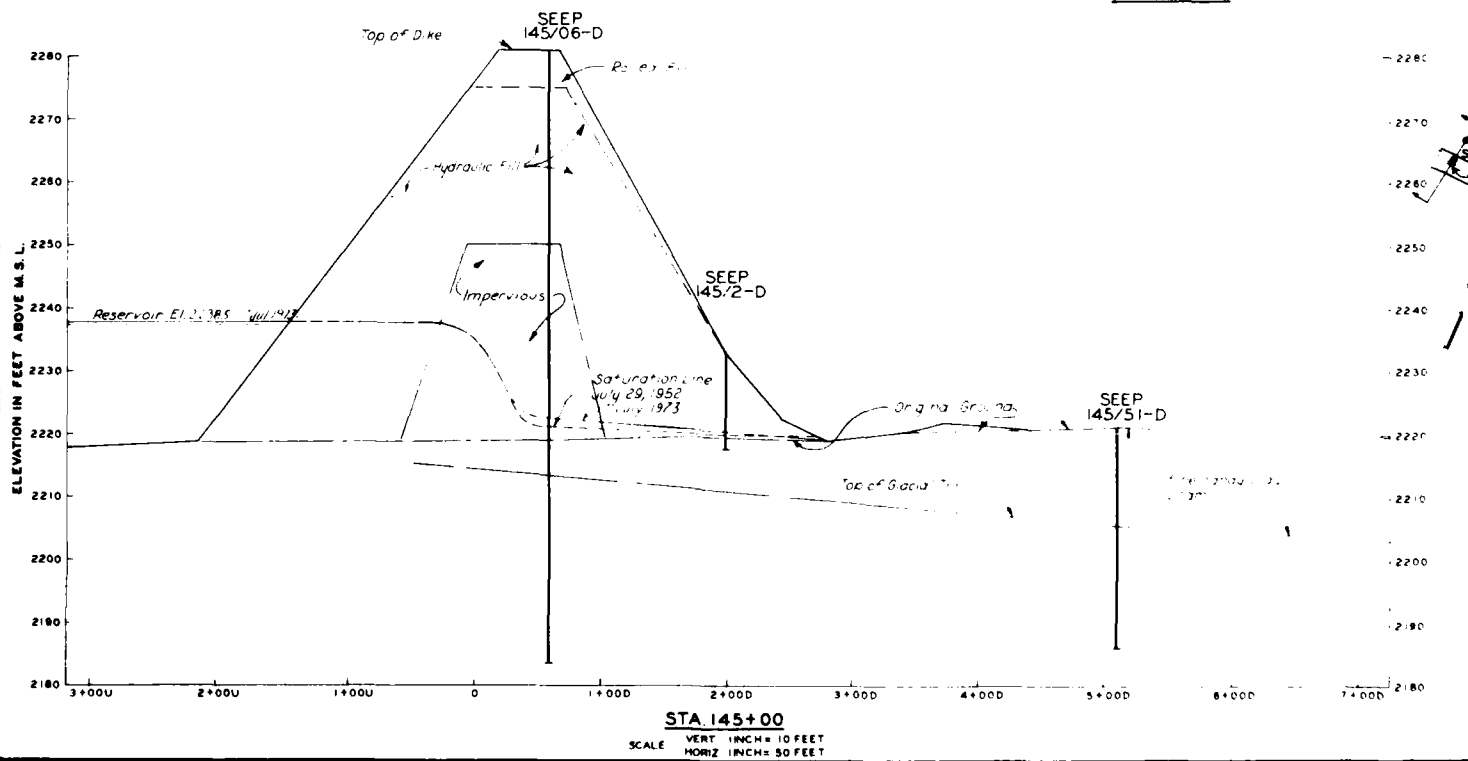
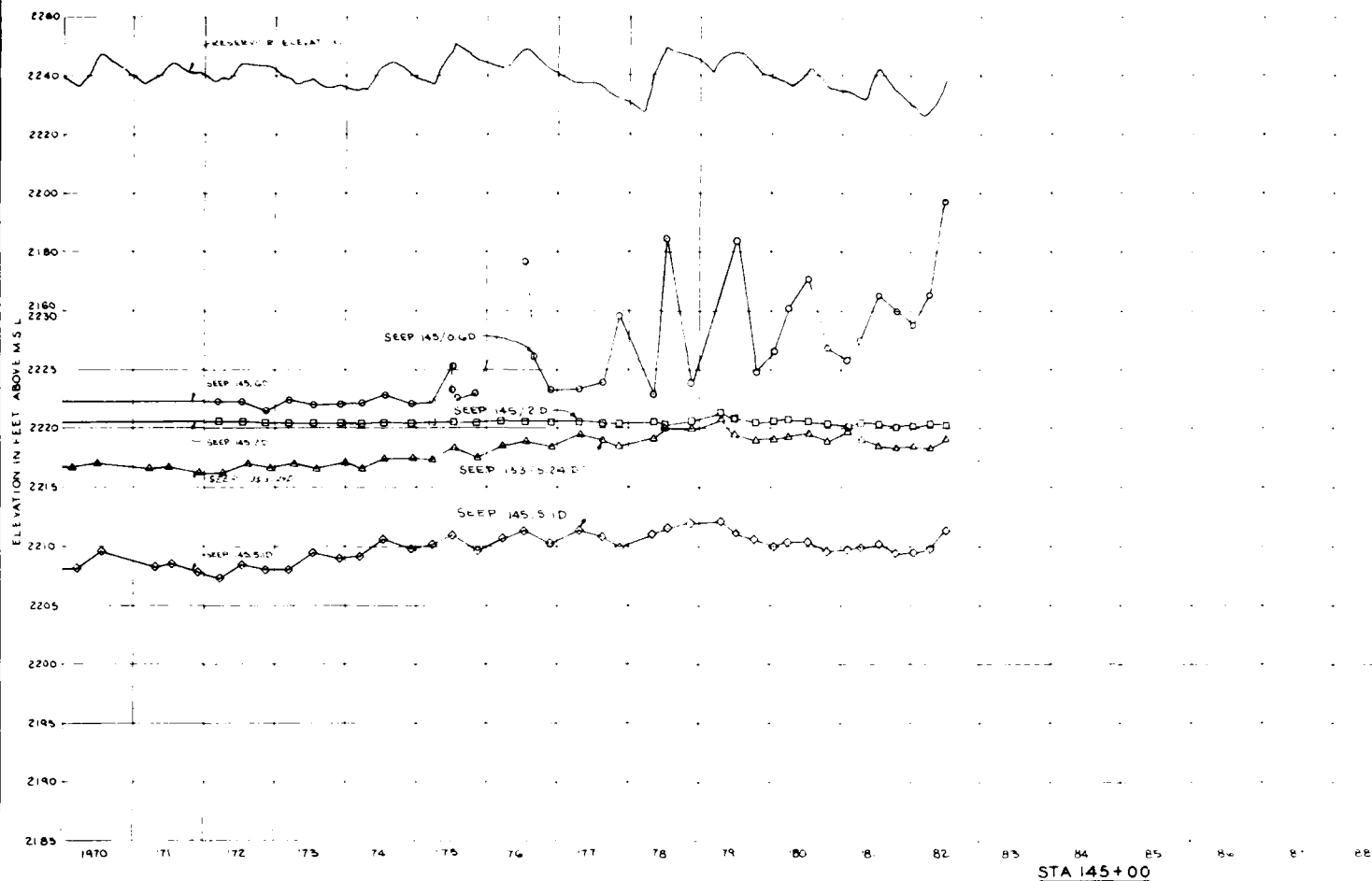
DATE	DESCRIPTION	MADE	APPROD
REVISIONS			
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA			
MISSOURI RIVER FORT PECK LAKE, MONTANA SATURATION LINE OBSERVATIONS STA. 115+00			
DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE
DESIGNED BY:	ENGINEER BY:	CHIEF ENGINEER DISTRICT	
APPROVED BY:	CHIEF ENGINEER DISTRICT	CHIEF OF DISTRICT	
APPROVED BY:	CHIEF OF DISTRICT	CHIEF OF DISTRICT	
THIS PLAN ACCOMPANIES CONTRACT NO. MODIFICATION NO.		FORT PECK DAM AND RESERVOIR EMBANKMENT CRITERIA AND PERFORMANCE REPORT PLATE 7-76	

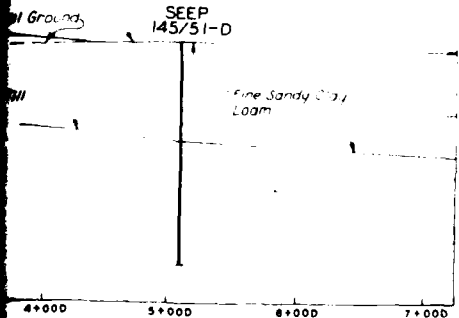
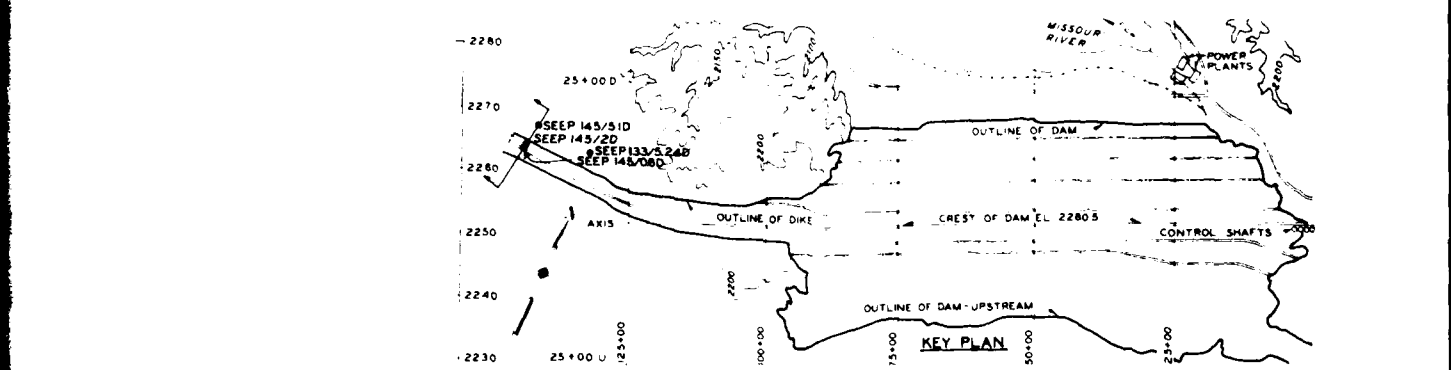
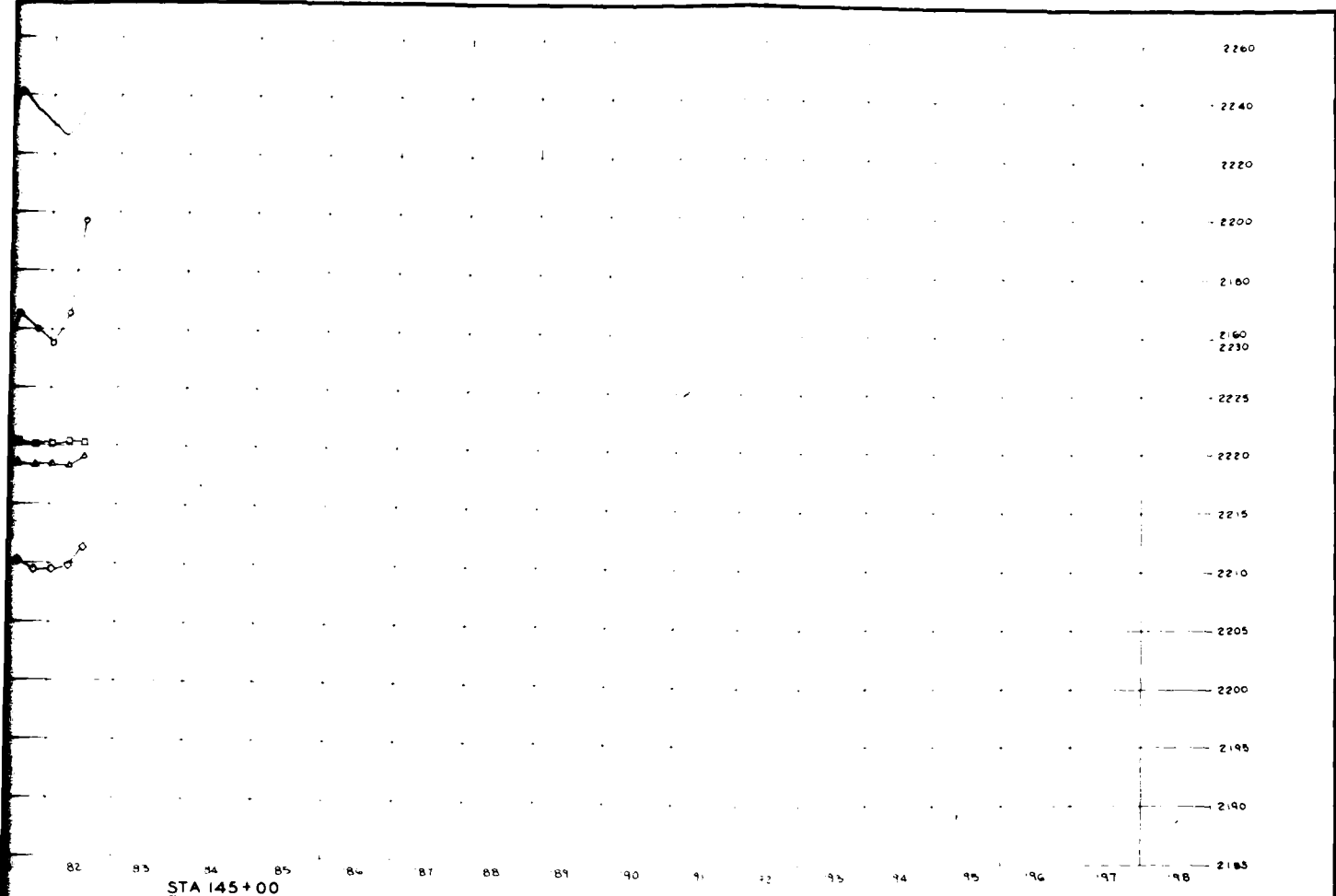


FORT PECK DAM AND RESERVOIR



DESIGNED BY		CHECKED BY		APPROVED BY	
DATE		DATE		DATE	
REVISIONS					
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
MISSOURI RIVER FORT PECK LAKE, MONTANA					
SATURATION LINE OBSERVATIONS STA. 145+00					
DESIGNED BY CWA	CHECKED BY LMS	DESIGNED BY CWA	APPROVED BY	DATE	DATE
DESIGNED BY CWA	APPROVED BY	DATE	DATE	DATE	DATE
DESIGNED BY CWA	APPROVED BY	DATE	DATE	DATE	DATE
DESIGNED BY CWA	APPROVED BY	DATE	DATE	DATE	DATE

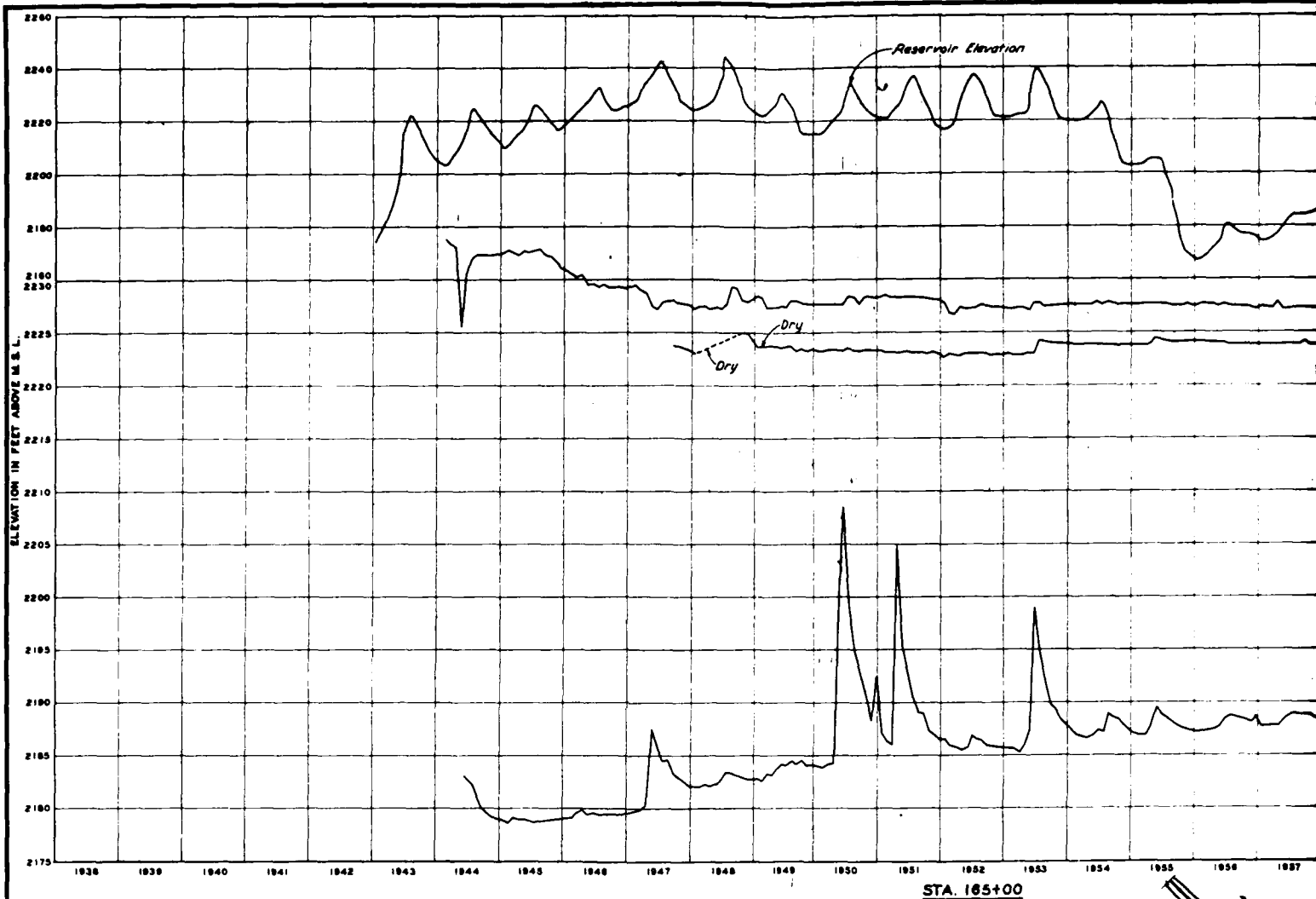




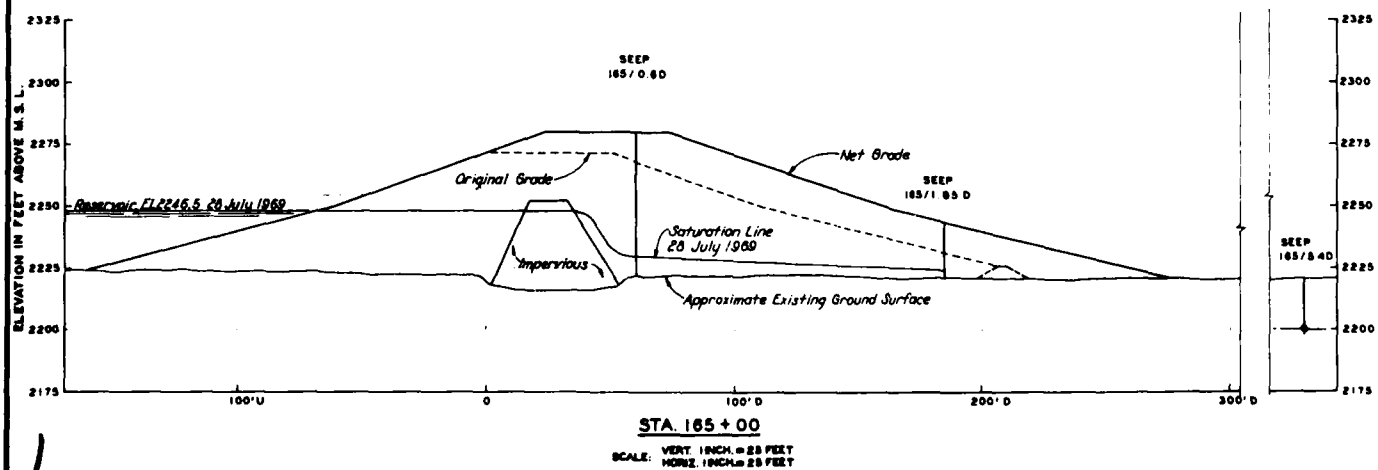
THIS PLAN ACCOMPANIES CONTRACT NO. _____
MODIFICATION NO. _____

DATE		DESCRIPTION		MADE	APPROVED
REVISIONS					
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
MISSOURI RIVER FORT PECK LAKE, MONTANA					
SATURATION LINE OBSERVATIONS STA. 145+00					
DESIGNED BY: C. W. A.	CHECKED BY: C. W. A.		APPROVED: _____		
ENGINEERED BY: _____	APPROVED: _____		DATE: _____		
APPROVED: _____	APPROVED: _____		SCALE AS SHOWN		
APPROVED: _____		APPROVED: _____		SHEET NO. _____	
APPROVED: _____		APPROVED: _____		SHEET NO. _____	

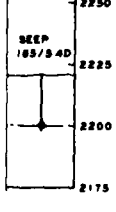
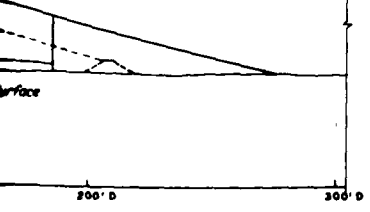
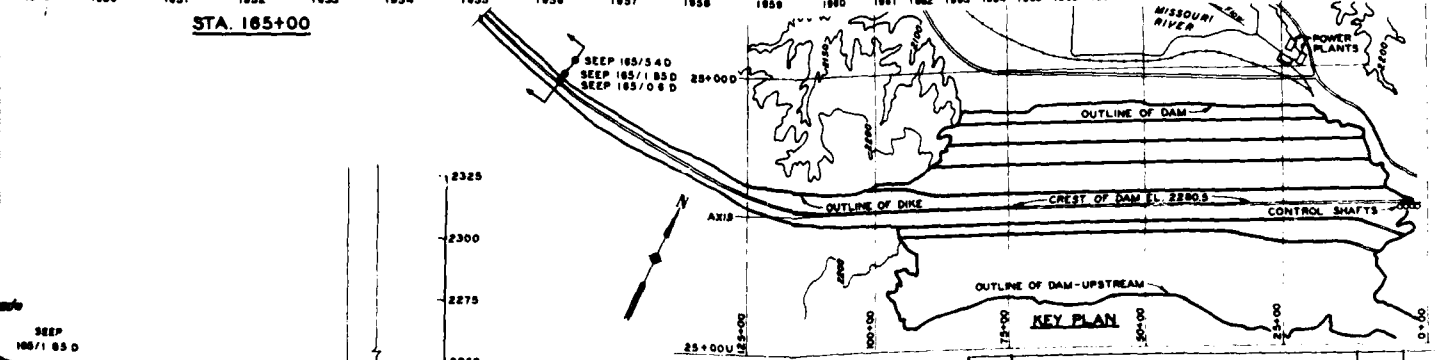
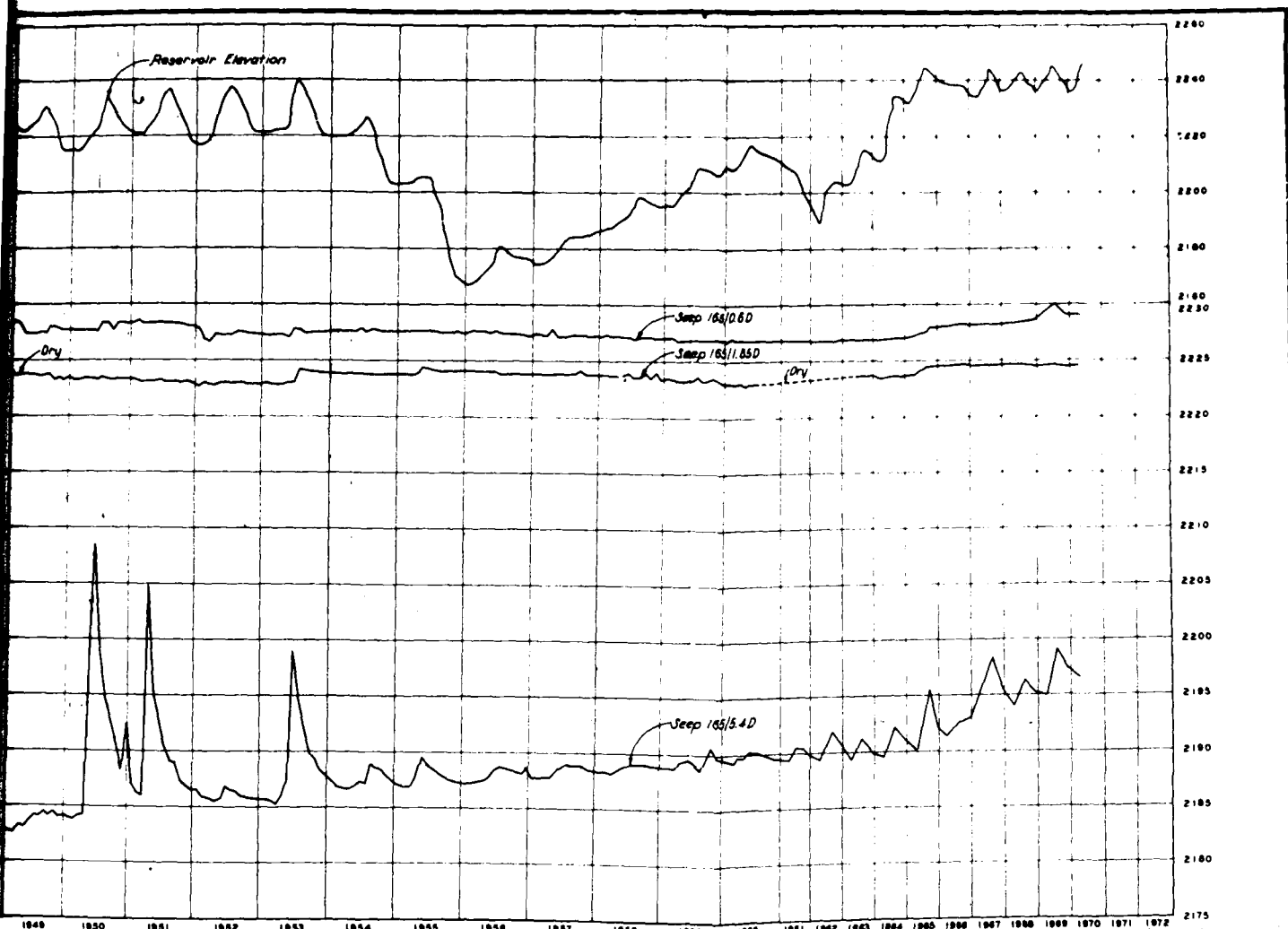
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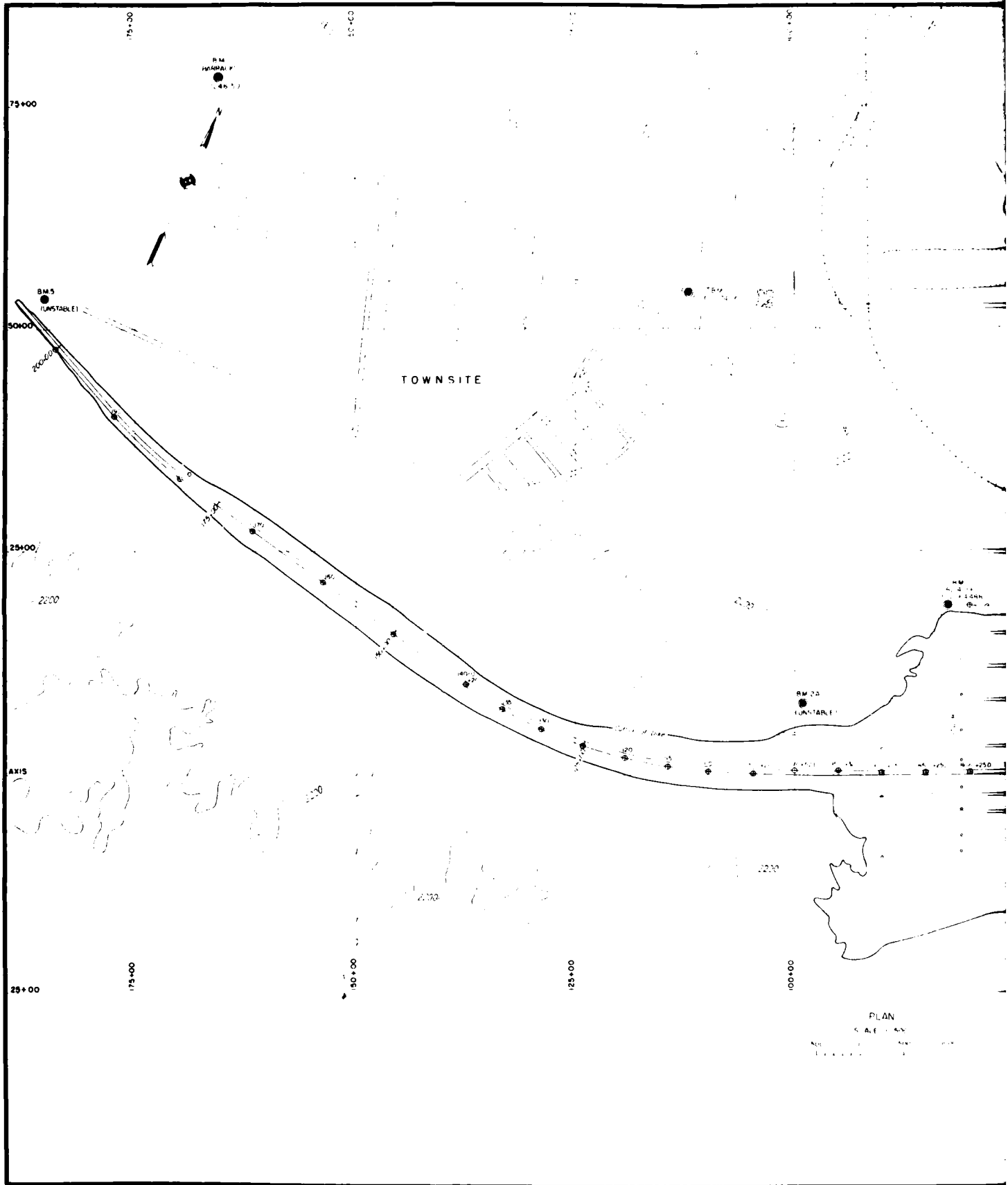
STA. 165+00

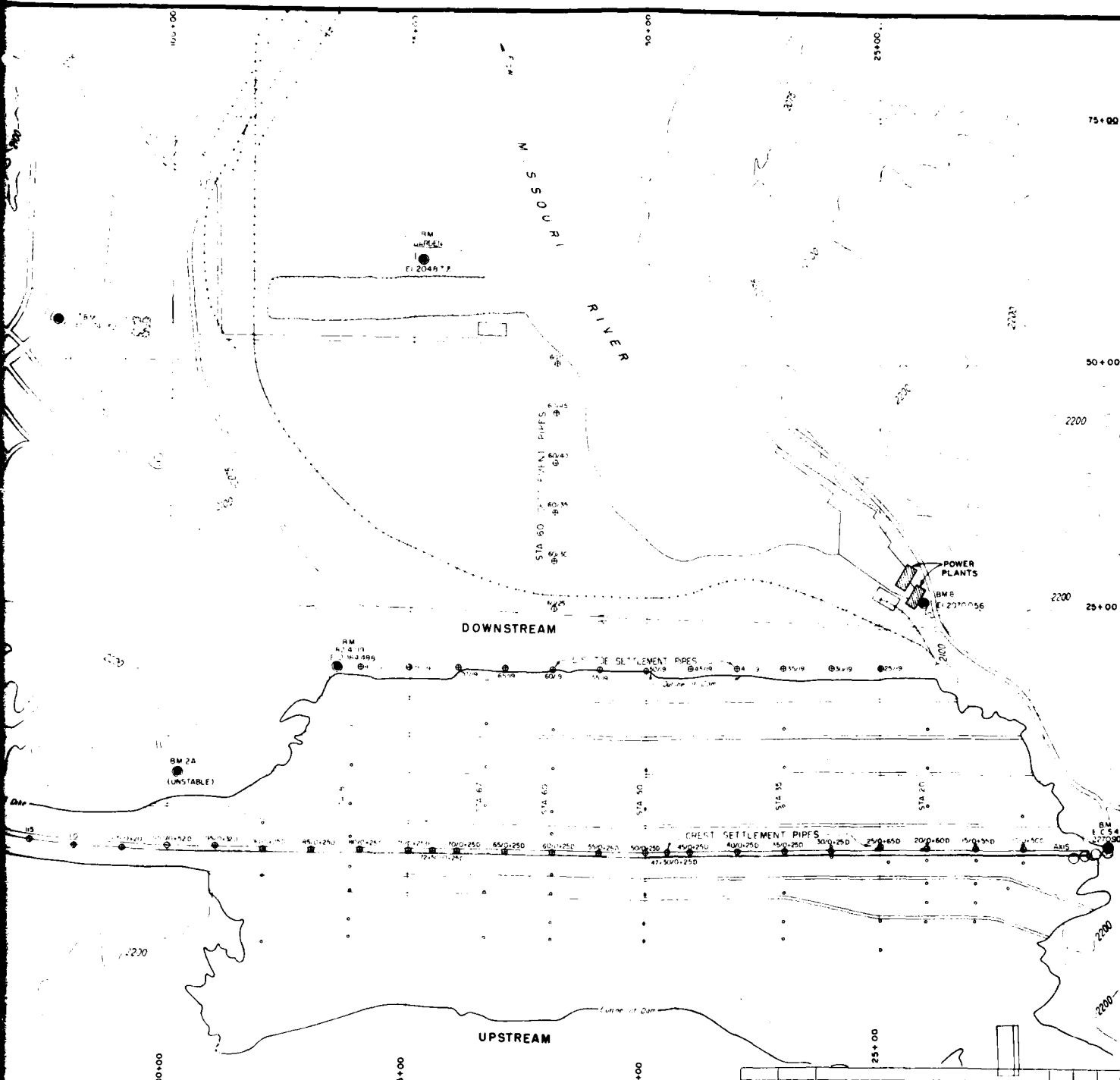


FORT PECK DAM AND RESERVOIR



DATE		REVISIONS		MADE	APPROVED
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
MISSOURI RIVER FORT PECK LAKE, MONTANA SATURATION LINE OBSERVATIONS STA. 165+00					
DESIGNED BY: S. J. M.	CHECKED BY: L. M. C.	APPROVED BY: D. W. A.	REPORTED BY:	SEAL AS SHOWN	DATE
SEAL AS SHOWN	SEAL AS SHOWN	SEAL AS SHOWN	SEAL AS SHOWN	SEAL AS SHOWN	SEAL AS SHOWN





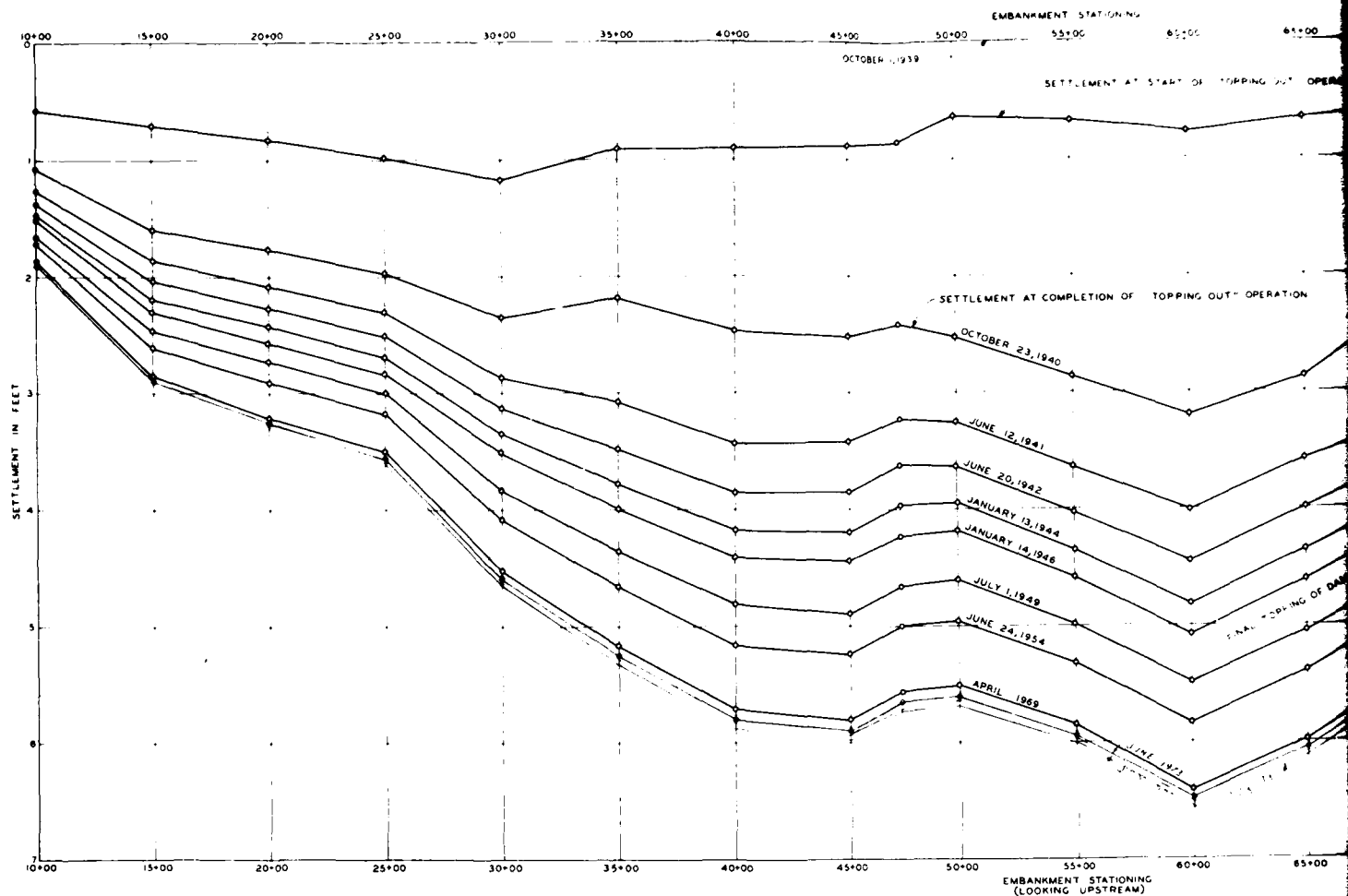
PLAN
SCALE 1"=400'

- LEGEND**
- Bench Mark
 - Settlement Pipe
 - Subsidence Pipe

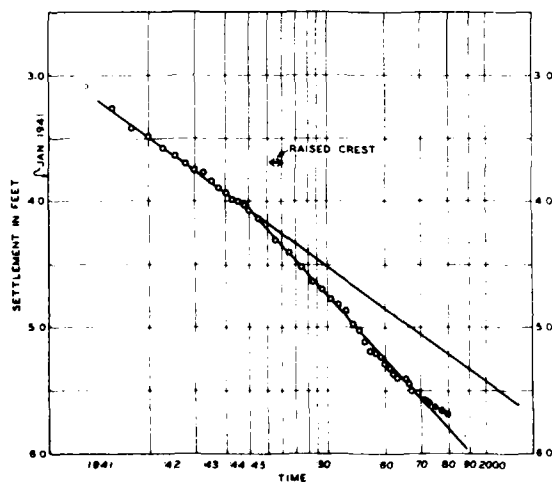
THIS DRAWING HAS BEEN REDUCED TO
THREE-FOURTHS THE ORIGINAL SCALE

2

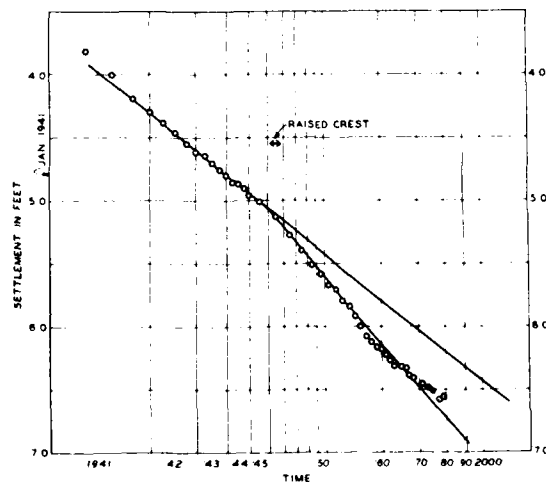
REV	DATE	REVISIONS SUBMITTED BY	BY	CHKD	APP
<p align="center">CORPS OF ENGINEERS, U. S. ARMY OFFICE OF THE DISTRICT ENGINEER BARRIBOON DISTRICT BURLINGTON, N. D.</p> <p align="center">MISSOURI RIVER FORT PECK DAM</p> <p align="center">ELEVATION, BENCHMARK, AND SETTLEMENT AND SUBSIDENCE PIPES</p>					
DESIGNED BY					
DRAWN BY					
TRACED BY					
CHECKED BY					
APPROVED BY					
<p>ALL INFORMATION IS AVAILABLE TO THE PUBLIC</p>			<p>APPROVAL AUTHORITY</p>		
<p>DATE: JUNE 1957</p>			<p>SCALE: AS SHOWN</p>		
<p>BY: [Signature]</p>			<p>DATE: 6/11/57</p>		



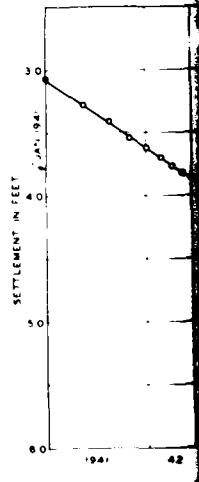
RECORD OF CREST SETTLEMENT SINCE SEPTEMBER 1939



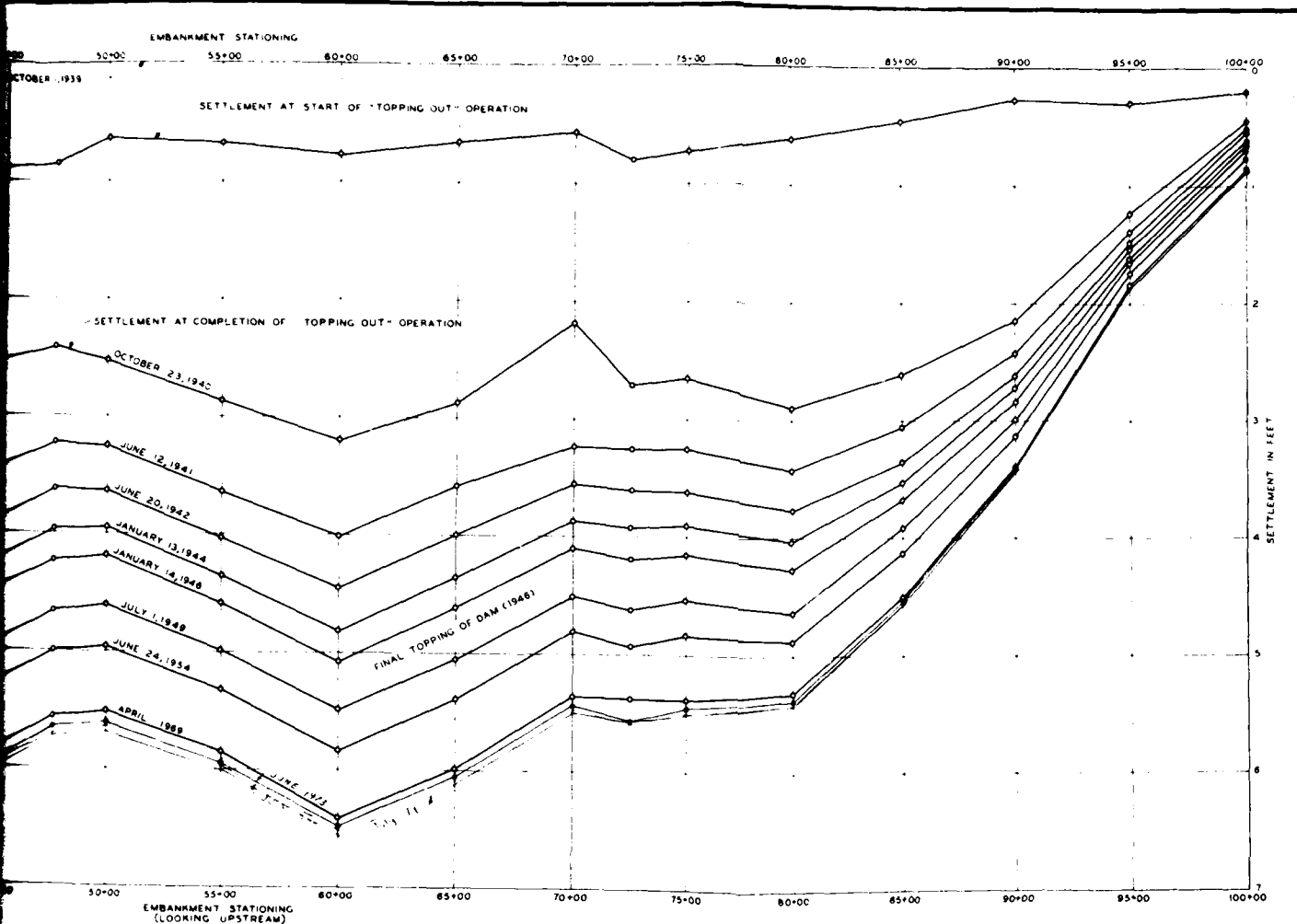
STA 50+00-TIME-MOVEMENT



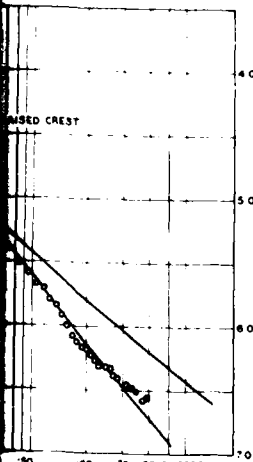
STA 60+00-TIME-MOVEMENT



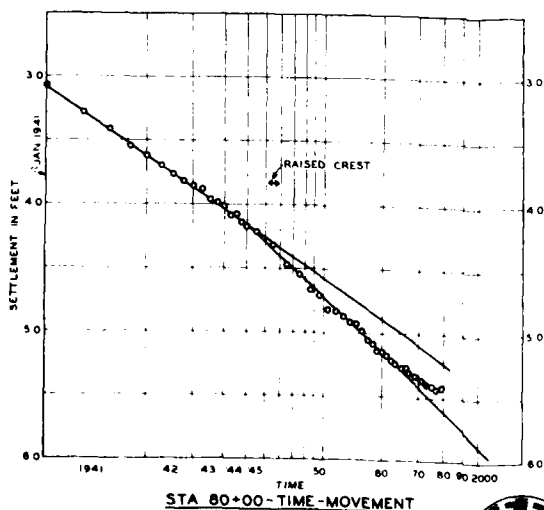
STA 65+00-TIME-MOVEMENT



RECORD OF CREST SETTLEMENT SINCE SEPTEMBER 1939



TIME-MOVEMENT

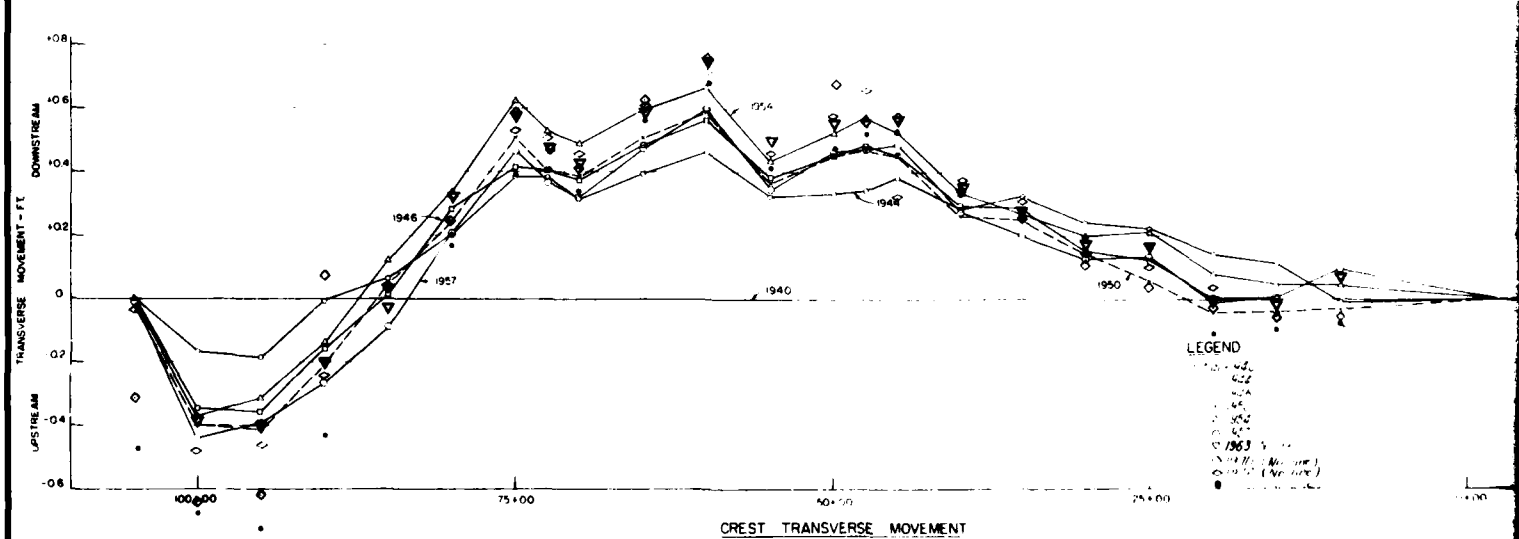
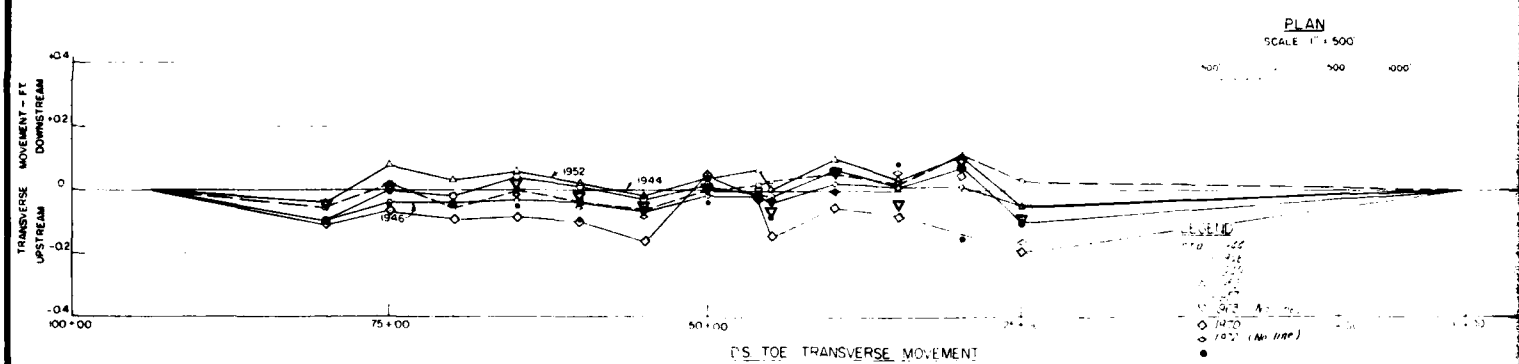
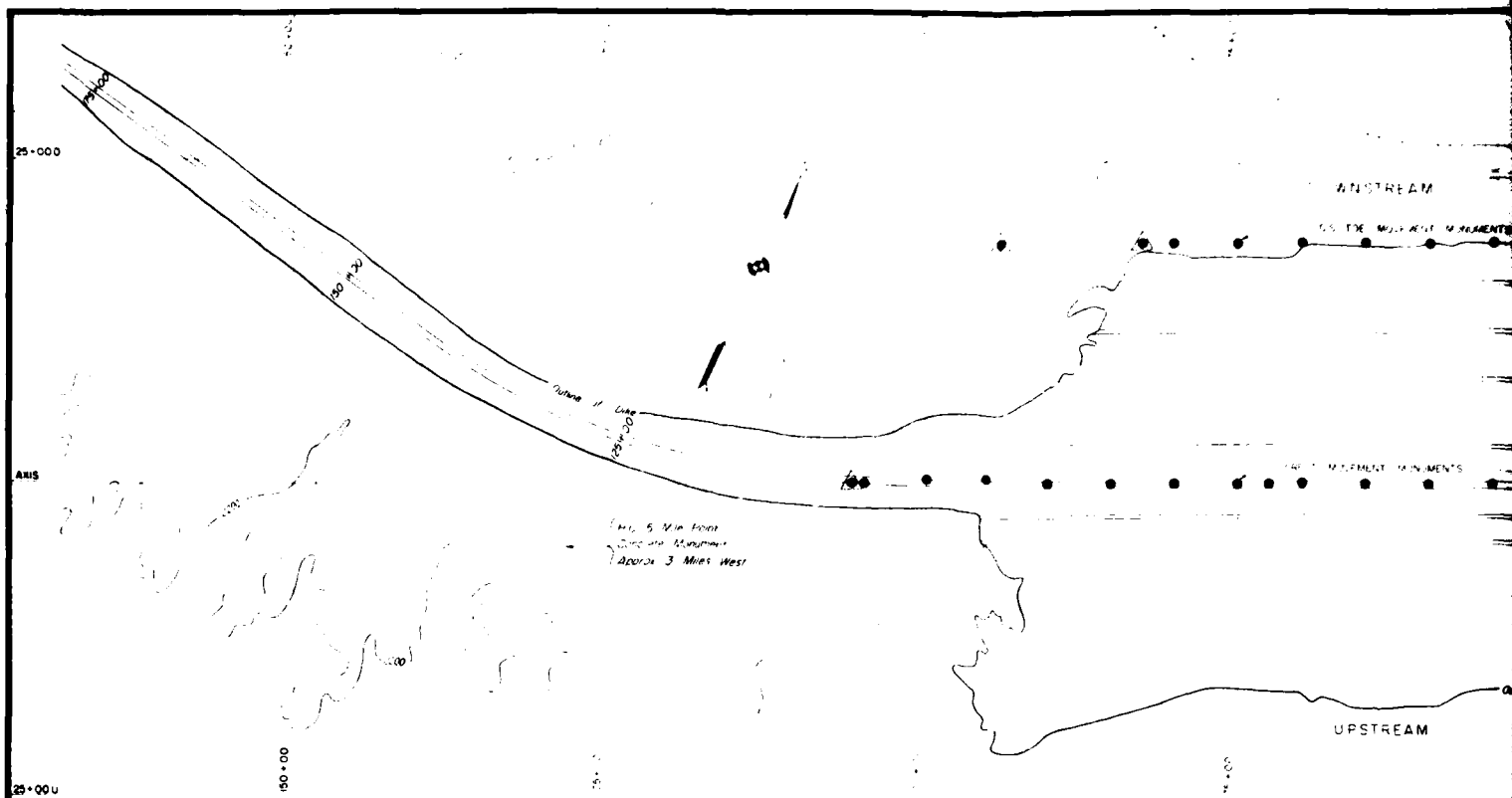


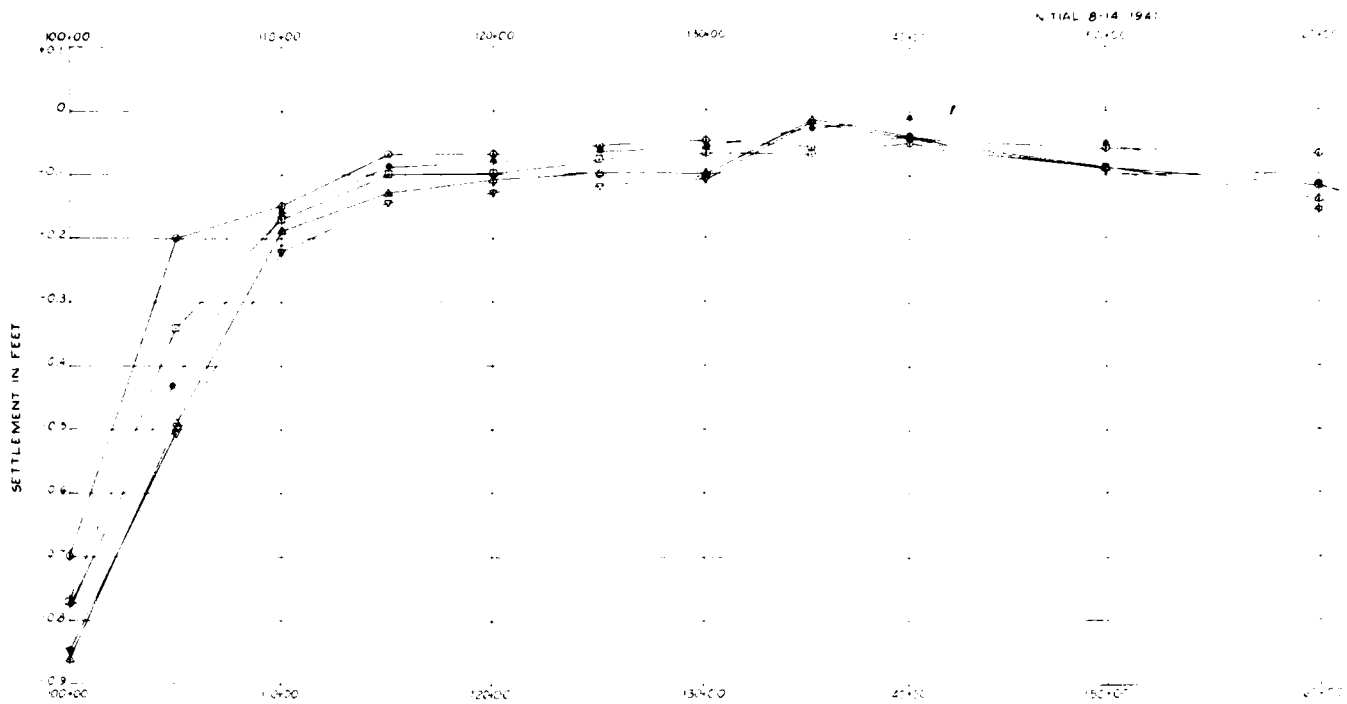
THIS DRAWING HAS BEEN REDUCED TO THREE- EIGHTHS THE ORIGINAL SCALE.

DATE		DESCRIPTION		MADE	APPROD
REVISIONS					
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
MISSOURI RIVER FORT PECK DAM AND RESERVOIR					
CREST OF DAM RECORD OF SETTLEMENT SINCE SEPTEMBER 1939					
DESIGNED BY: C. J. J.	CHECKED BY: C. W. D.	TRACED BY: D. W. A.	REVIEWED BY: D. W. A.	APPROVED: D. W. A.	DATE: SEP 1969
APPROVED: D. W. A.		APPROVED: D. W. A.		APPROVED: D. W. A.	
APPROVED: D. W. A.		APPROVED: D. W. A.		APPROVED: D. W. A.	
APPROVED: D. W. A.		APPROVED: D. W. A.		APPROVED: D. W. A.	

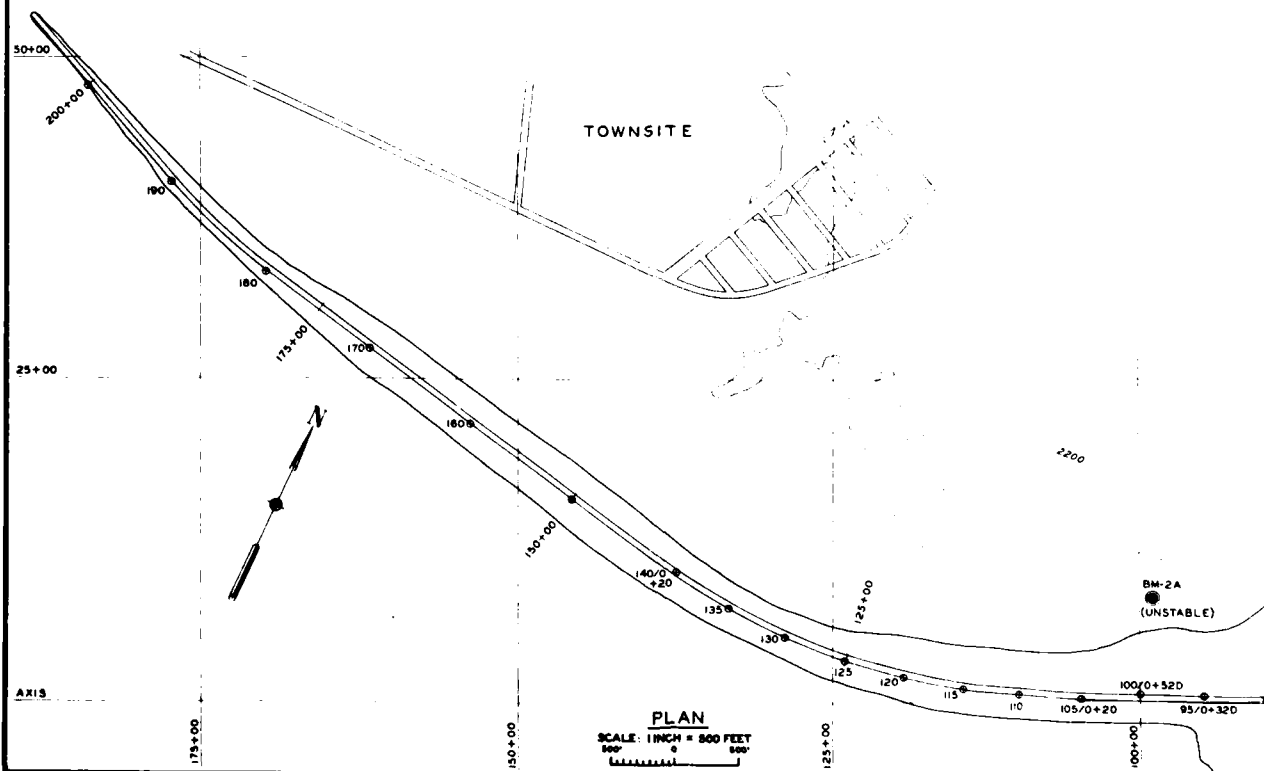
THIS PLAN ACCOMPANIES CONTRACT NO. MODIFICATION NO.



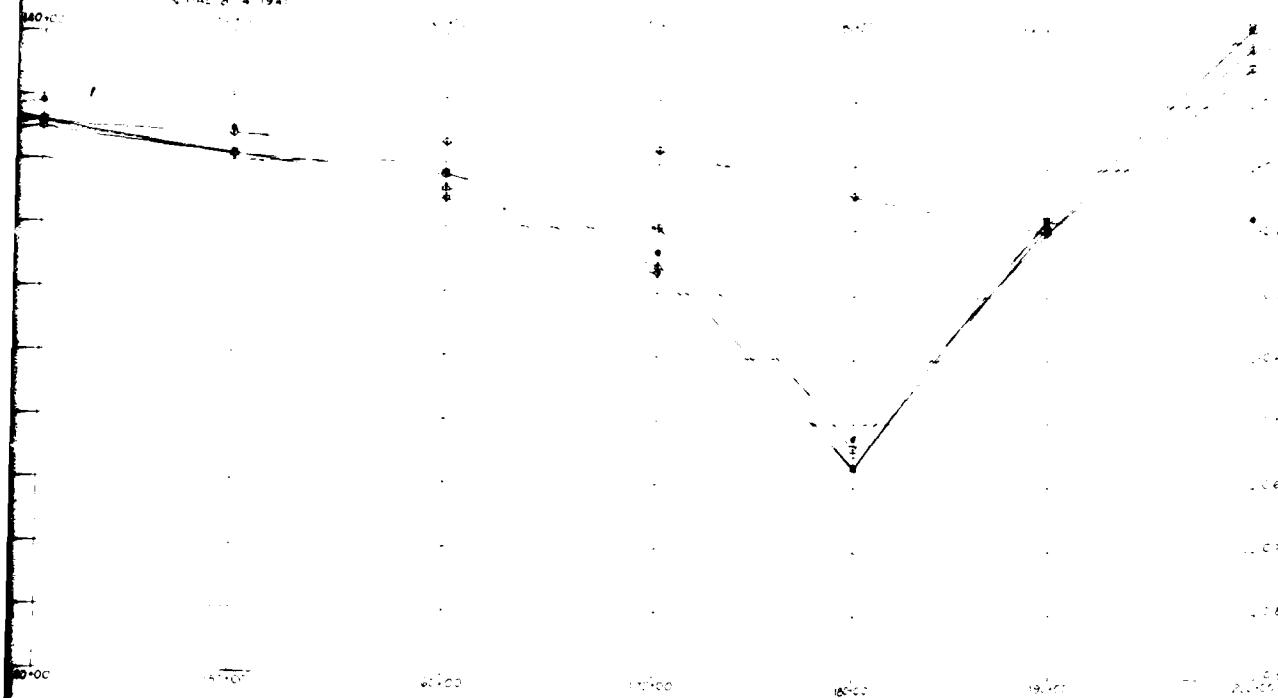




RECORD OF DIKE SETTLEMENT



INITIAL 8-4-1941

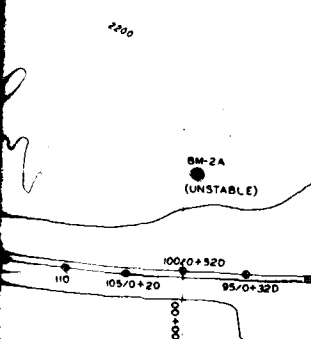


RECORD OF DIKE SETTLEMENT

LEGEND

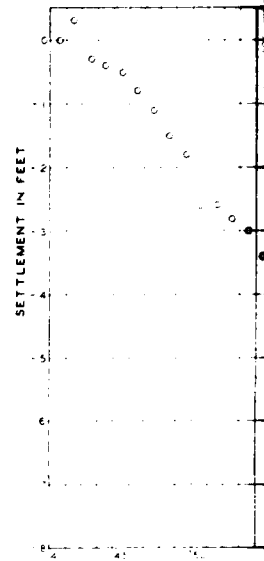
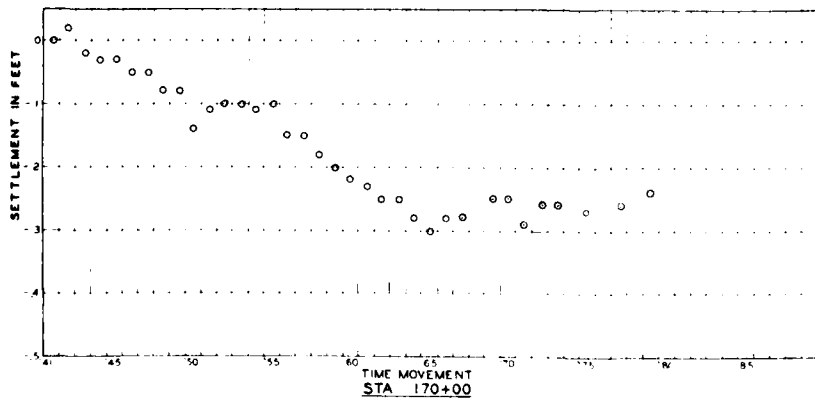
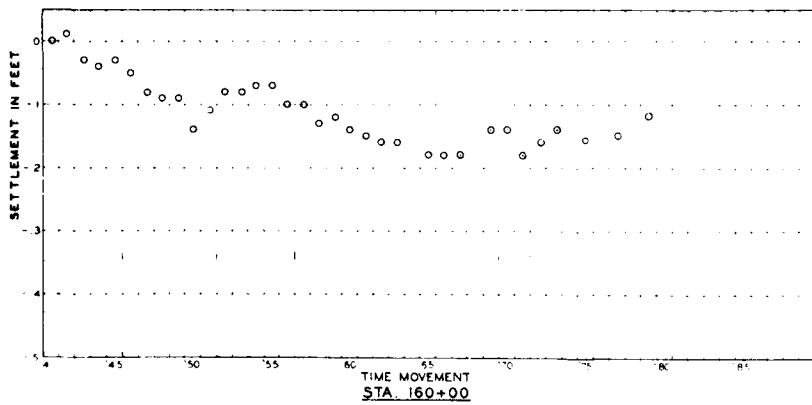
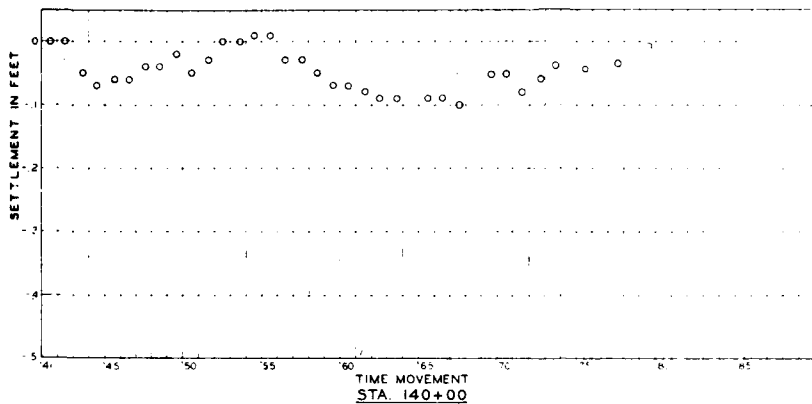
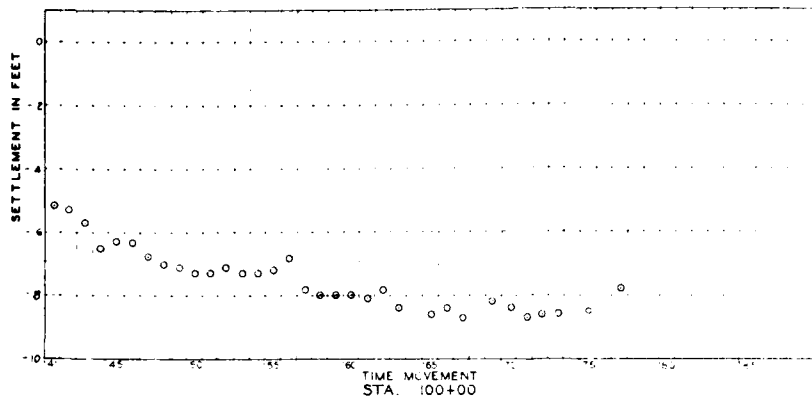
INITIAL AUG 14 1941
 O 1948
 □ 1960
 ◊ JUNE 1973
 ∇ JULY 1975
 • JULY 1979

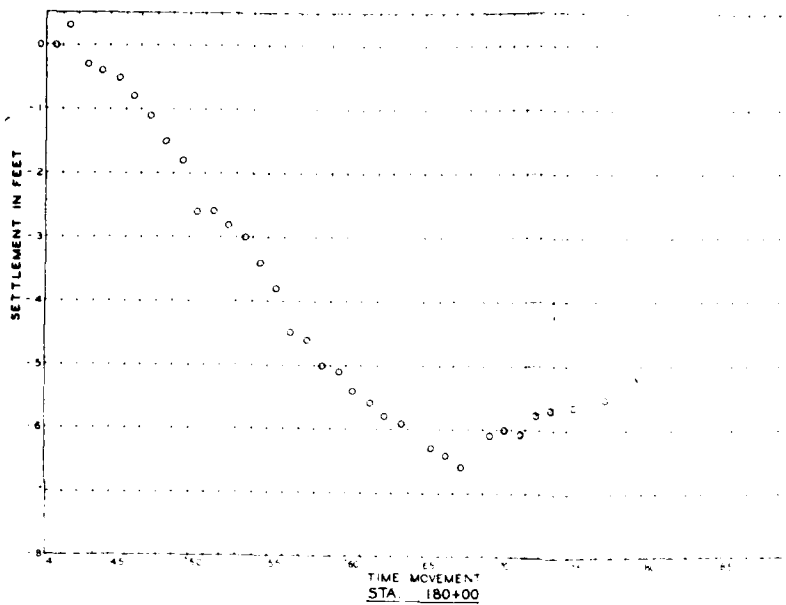
THIS CHARTING HAS BEEN REDUCED TO
 HALF THE ORIGINAL SCALE.



THIS PLAN ACCOMPANIES CONTRACT NO.
 MODIFICATION NO.

DATE		DESCRIPTION		MADE	APPROVED
REVISIONS					
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
DESIGNED BY		U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA			
CHECKED BY		FORT PECK LAKE MONTANA CREST OF DIKE RECORD OF SETTLEMENT SINCE AUGUST 1941 (Profile)			
SUBMITTED BY		DATE			
SHEET		SECTION		DATE	
RECORDED		APPROVED		DATE	
SHEET		SHEET ENGINEERING DIVISION		DATE	
APPROVED		SCALE AS SHOWN		SHEET NO.	
SHEET		SHEET		SHEET	



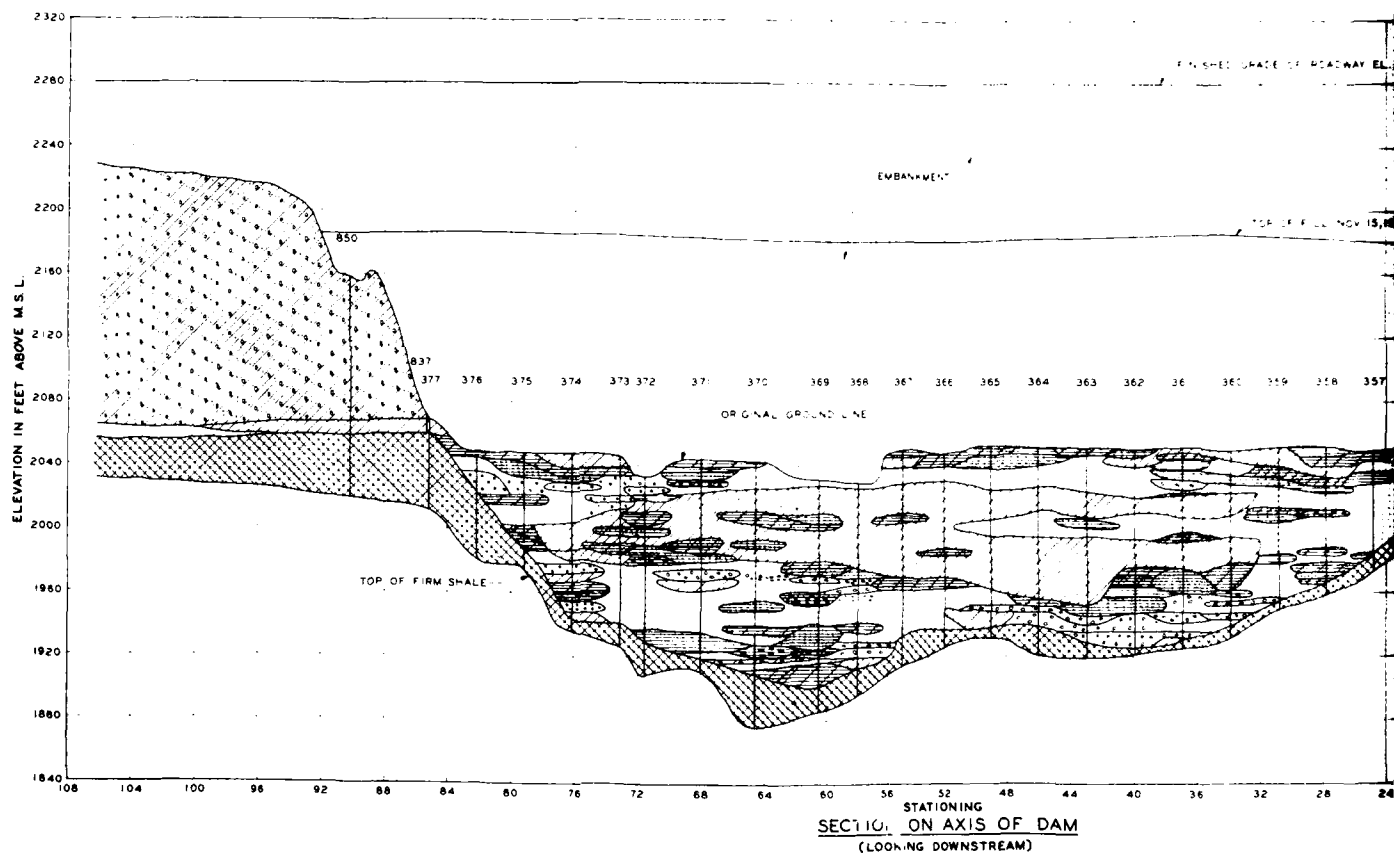
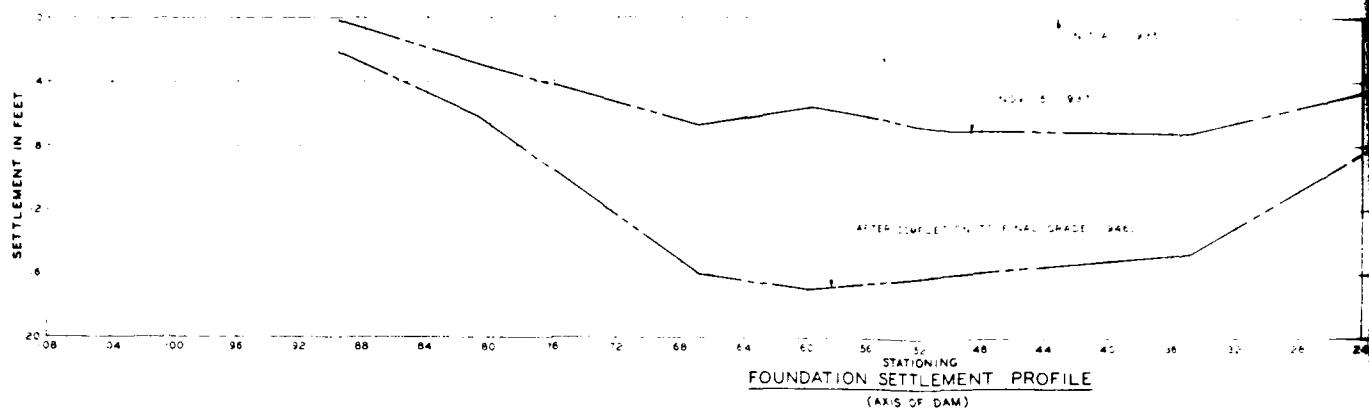


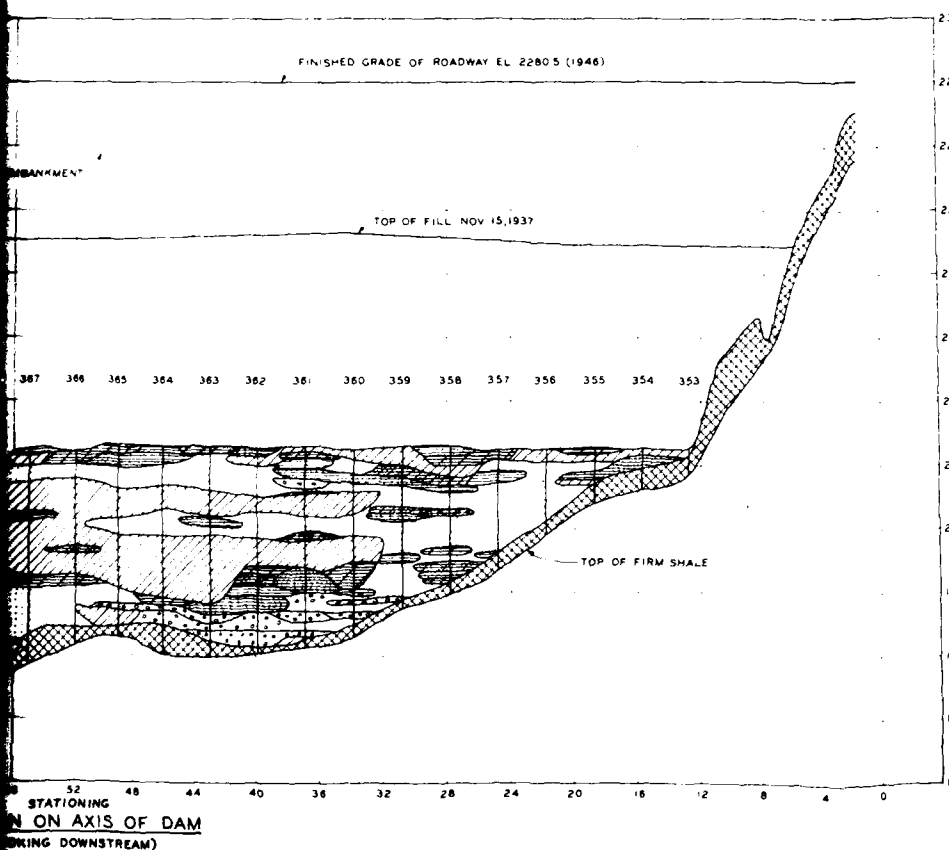
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THREE-FIFTHS THE ORIGINAL SCALE.
















DATE	DESCRIPTION	MADE	APPROVED
REVISIONS			
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA			
DESIGNED BY:	MISSOURI RIVER		
DRAWN BY:	FORT PECK LAKE MONTANA		
CHECKED BY:	CREST OF DIKE		
SUBMITTED BY:	RECORD OF SETTLEMENT SINCE		
CHIEF	SECTION	AUGUST 1941	
ENGINEER	APPROVED	(Selected Station)	
CHIEF	BRANCH	CHIEF ENGINEERING DIVISION	DATE
APPROVER:	SCALE AS SHOWN		SPEC NO.
SHEET		SHEET NUMBER	
SOL. S. E. DISTRICT ENGINEER			



THIS PLAN ACCOMPANIES CONTRACT NO.
MODIFICATION NO.





- | | LEGEND | |
|------|---|--------------------------|
| |  | SAND |
| 2280 |  | GRAVELLY SAND |
| |  | LOAM |
| 2240 |  | SANDY LOAM |
| |  | SANDY GRAVELLY LOAM |
| 2200 |  | CLAY |
| |  | SANDY CLAY |
| 2 80 |  | CLAY LOAM |
| |  | SANDY CLAY LOAM |
| 2 20 |  | GRAVELLY CLAY LOAM |
| |  | SANDY GRAVELLY CLAY LOAM |
| 2080 |  | GRAVEL |
| |  | SANDY GRAVEL |
| 2040 |  | GLACIAL TILL |
| |  | SHALE (EXCEPT FIRM) |
| 2000 | BUREAU OF SOILS CLASSIFICATION | |

NOTE

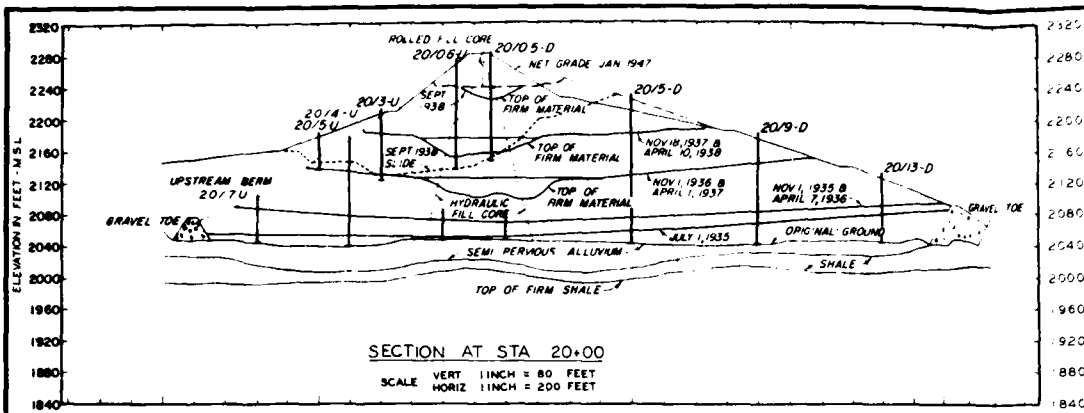
1. PROFILE DATA TAKEN FROM DWG NO 6296 91-11-10 (FEB 1964)
2. EACH CHILLING PIPE IS AN EXTENSION OF
A 5/8" PIPE WELDED TO AN 18" PLATE.
IN TURN BOLTED TO A WOOD PLATFORM
MEASURING 4' SQUARE. NO PROTECTIVE
FIBRE WAS PROVIDED; THEREFORE, STRAIN
DUE TO SKIN FRICTION IS REALIZED

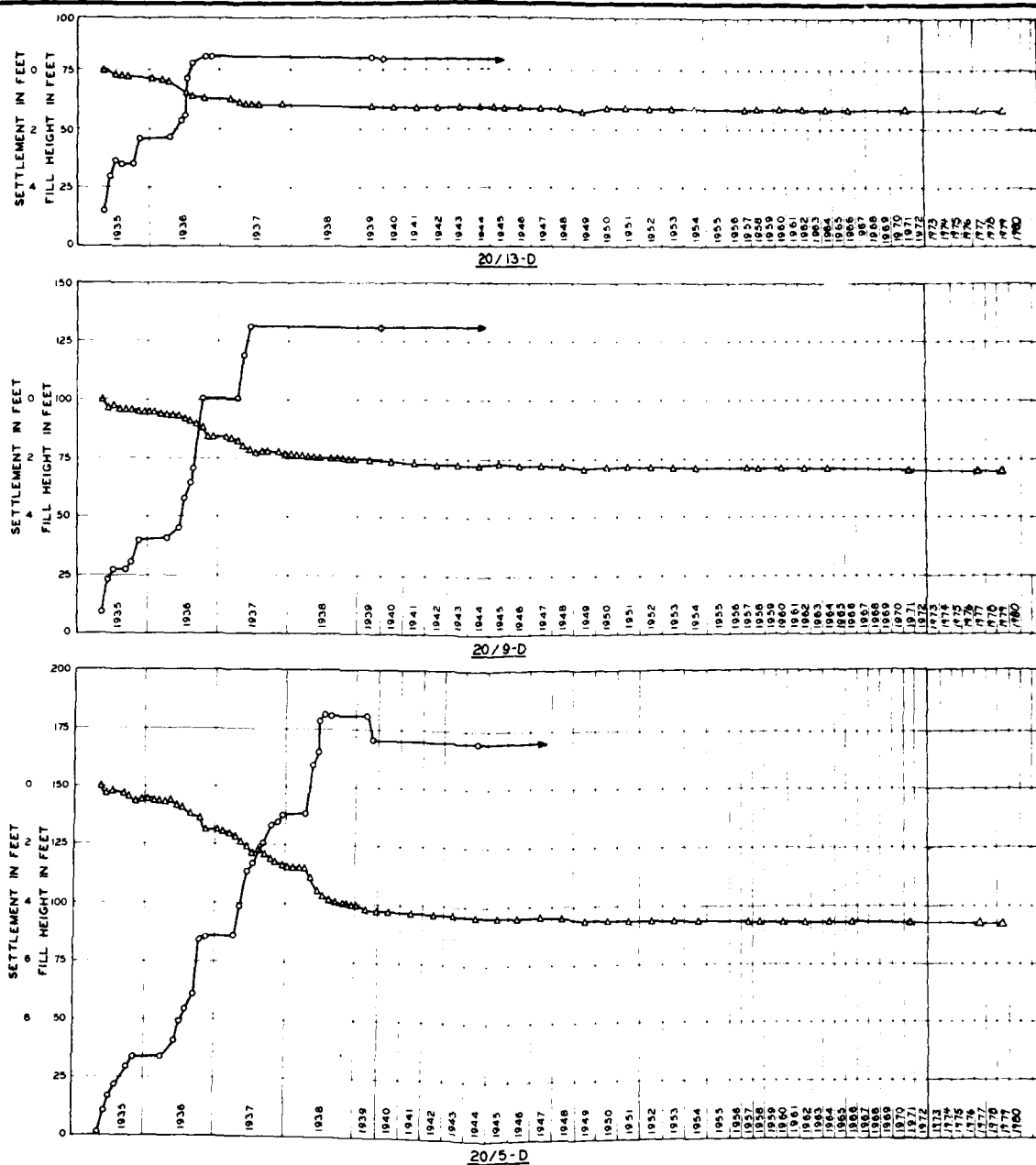
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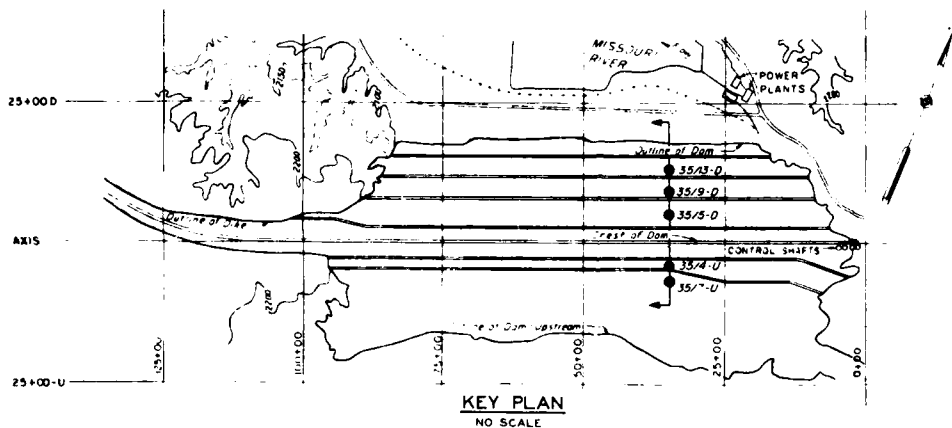
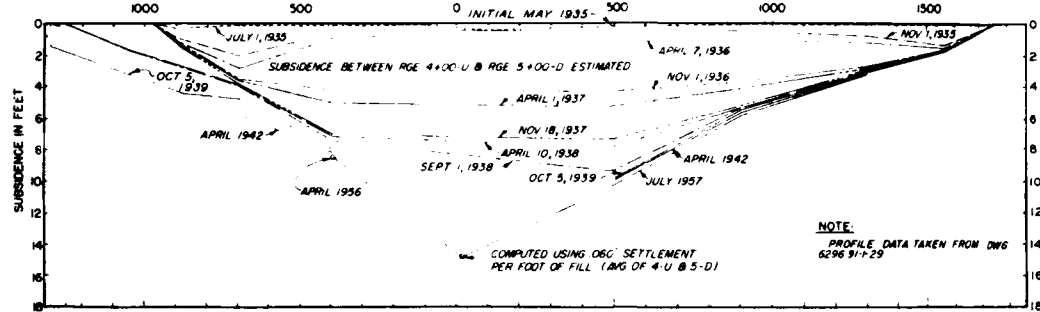
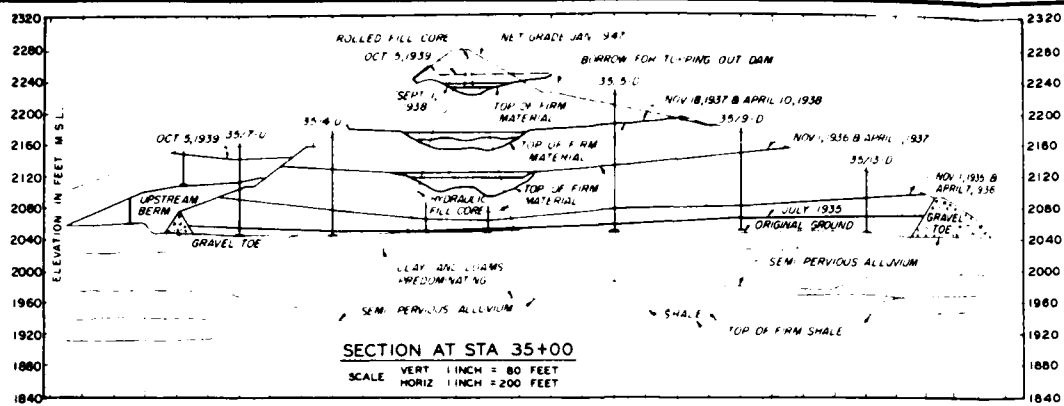
SCALE VERT 1 INCH = 40 FEET
HORIZ 1 INCH = 400 FEET



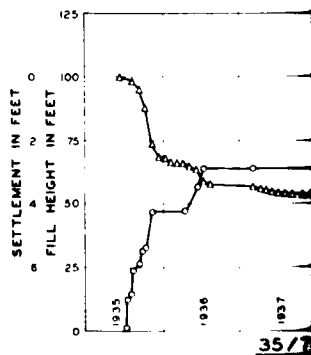
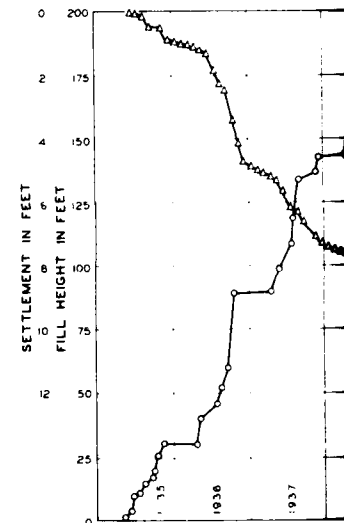
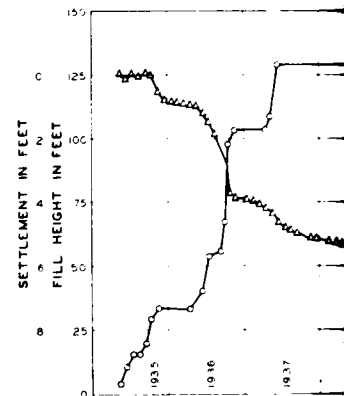
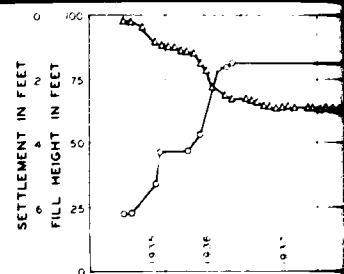
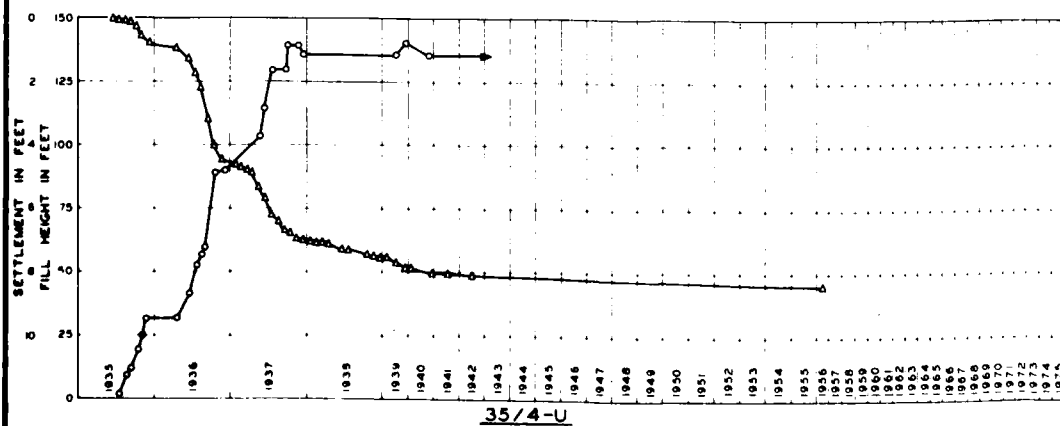
THIS PLAN ACCOMPANIES CONTRACT NO. _____
MODIFICATION NO. _____

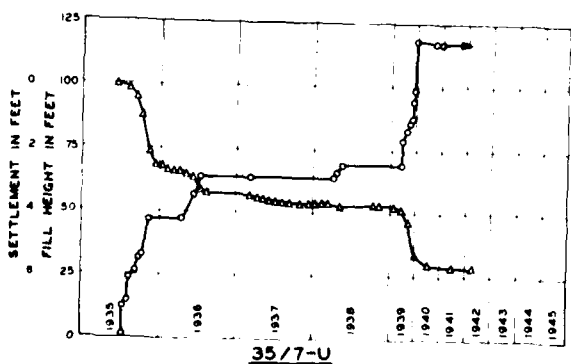
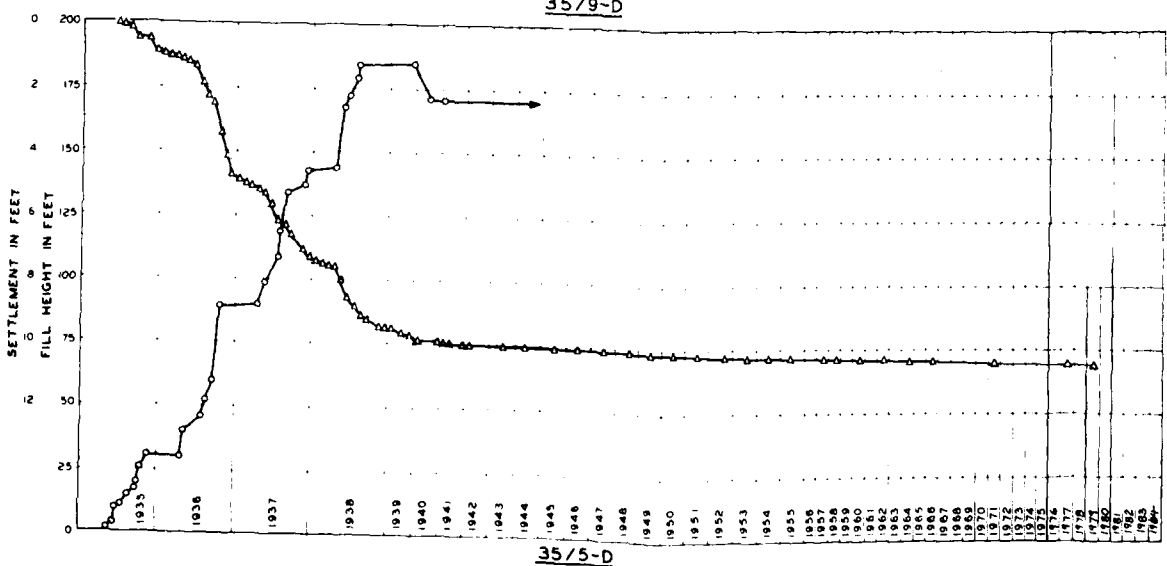
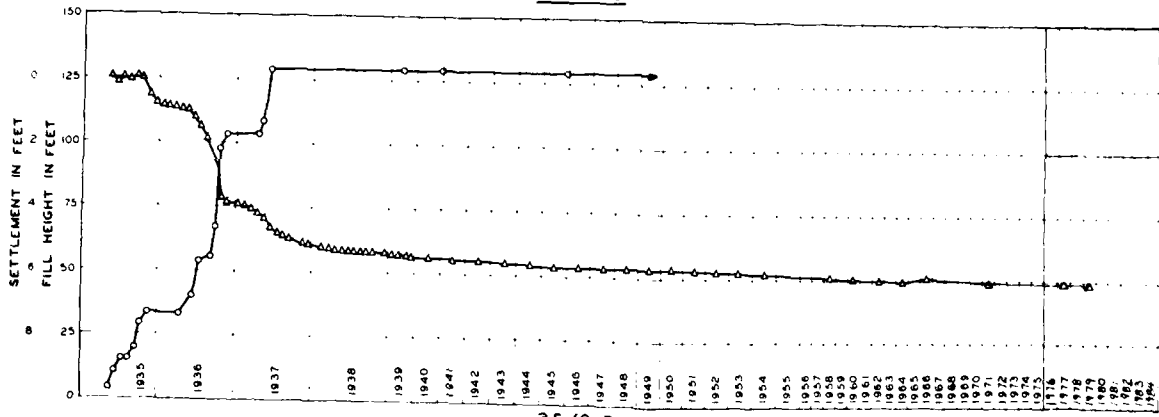
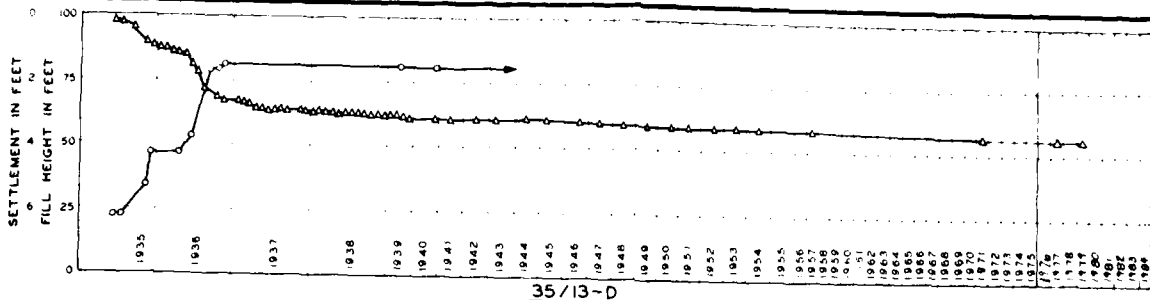






LEGEND
 —○— FILL HEIGHT IN FEET
 —△— SETTLEMENT IN FEET



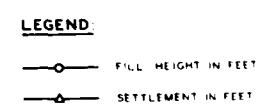
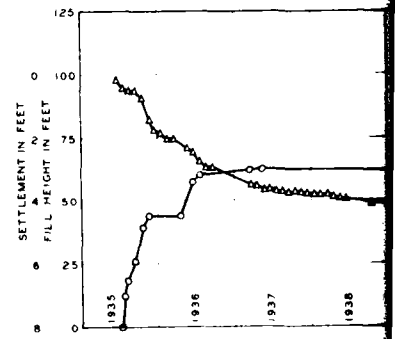
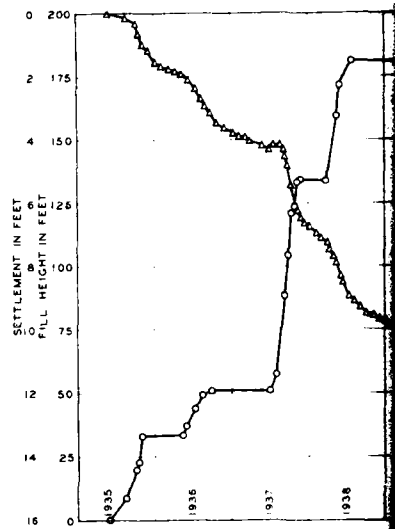
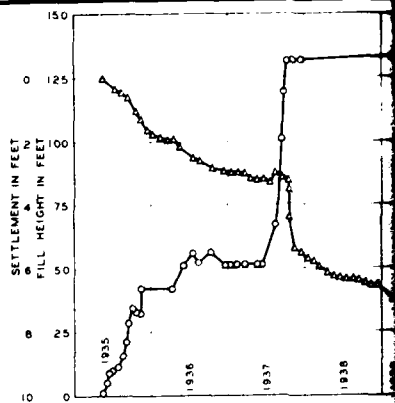
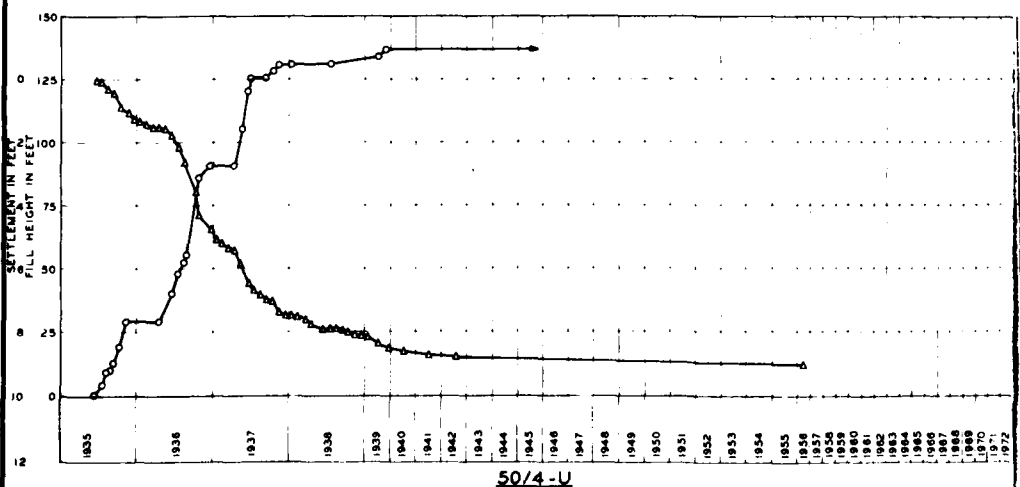
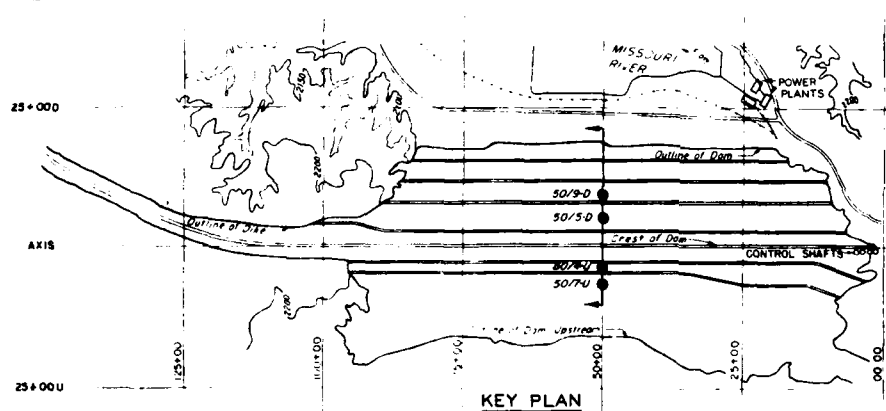
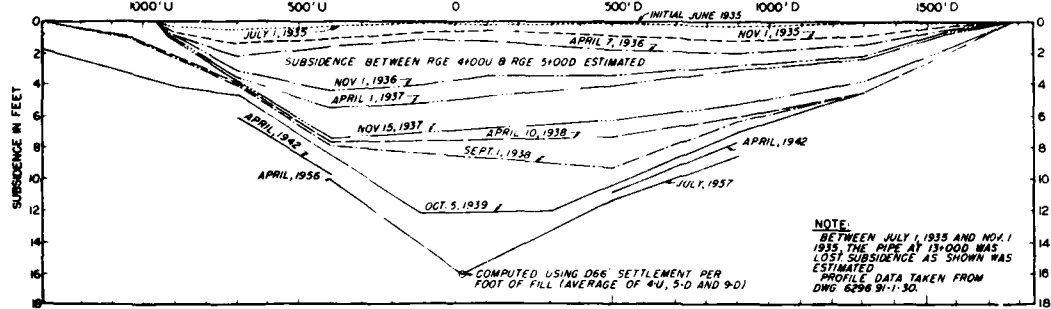
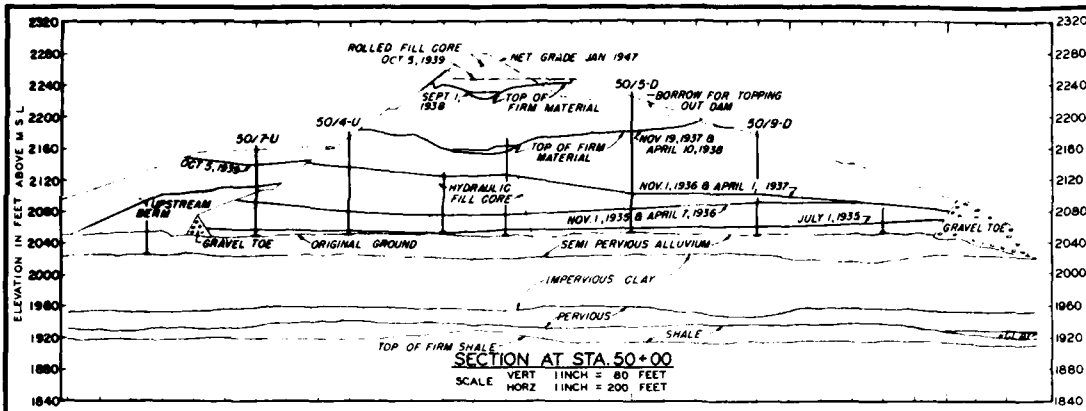


THIS DRAWING HAS BEEN REDUCED TO
THREE-FOURTHS THE ORIGINAL SCALE.

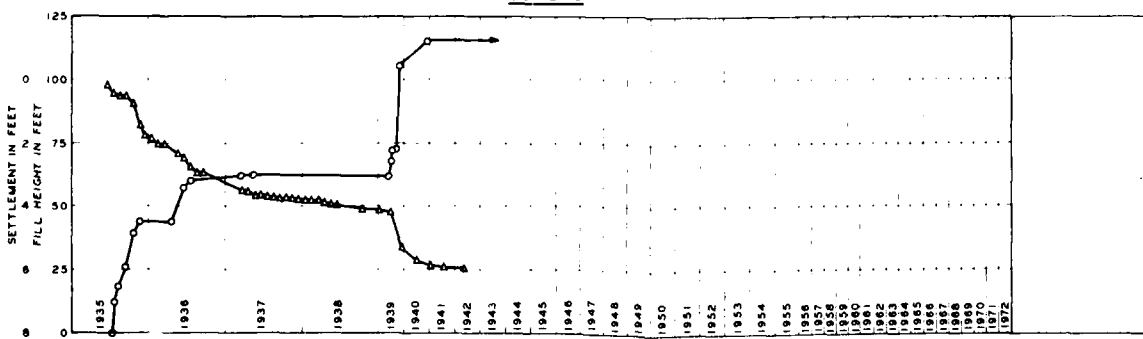
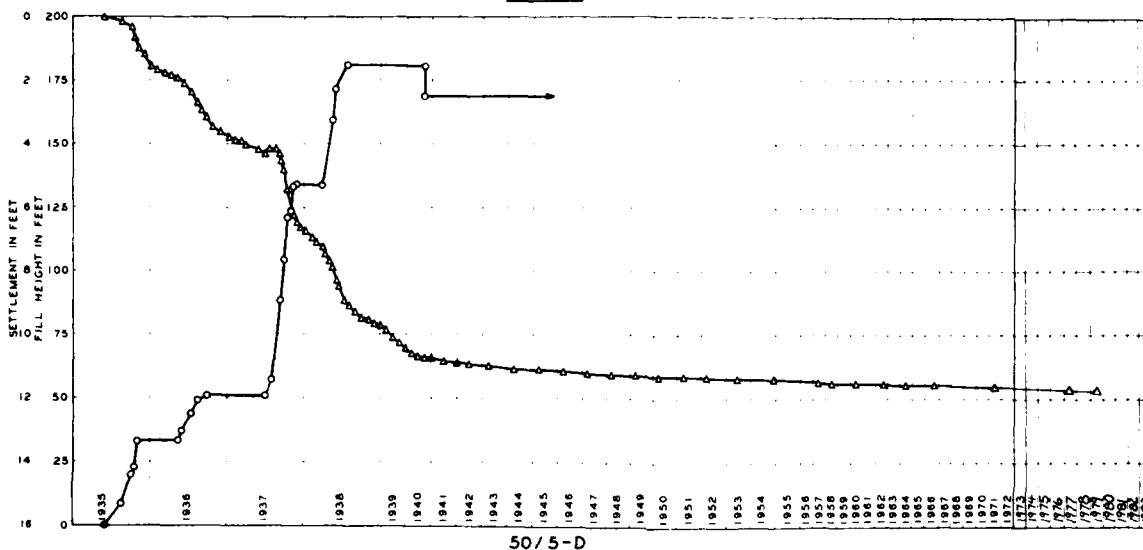
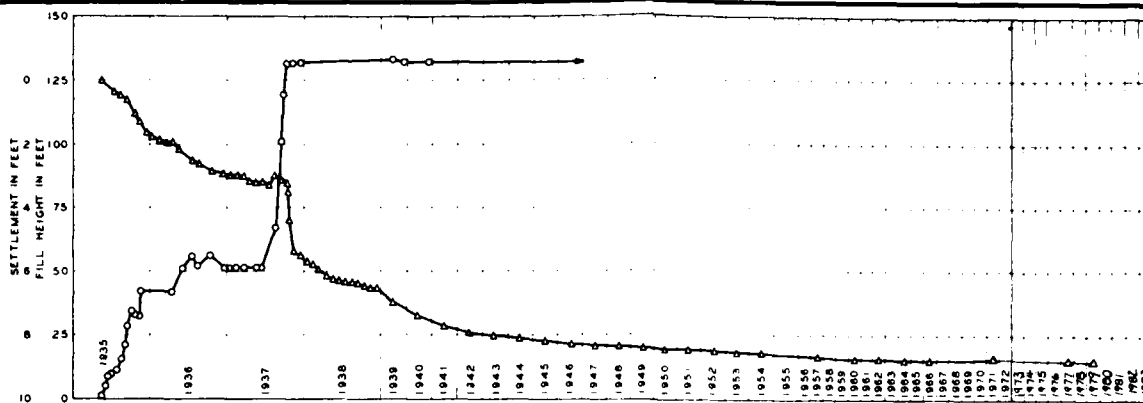


THIS PLAN ACCOMPANIES CONTRACT NO.
MODIFICATION NO.

DATE	DESCRIPTION	MADE	APPROVED
REVISIONS			
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA			
MISSOURI RIVER FORT PECK LAKE, MONTANA			
SUMMARY OF FOUNDATION SETTLEMENT STATION 35+00			
DESIGNED BY: H. J. M.	APPROVED: [Signature]		
DRAWN BY: H. J. M.	DATE: [Date]		
CHECKED BY: C. W. A.	APPROVED: [Signature]		
ENGINEER BY: [Signature]	DATE: [Date]		
APPROVED: [Signature]	DATE: [Date]		
CHIEF OF DISTRICT: [Signature]	DATE: [Date]		
APPROVED: [Signature]	DATE: [Date]		
CHIEF OF DISTRICT: [Signature]			
DATE: [Date]			



NO. 156



LEGEND:

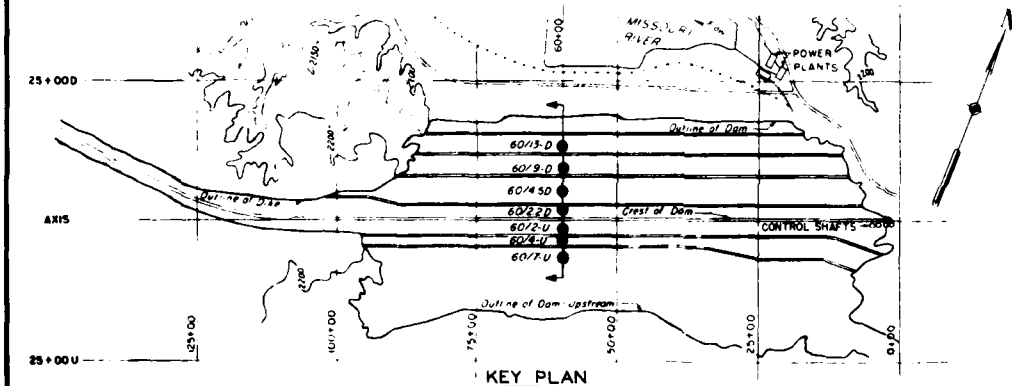
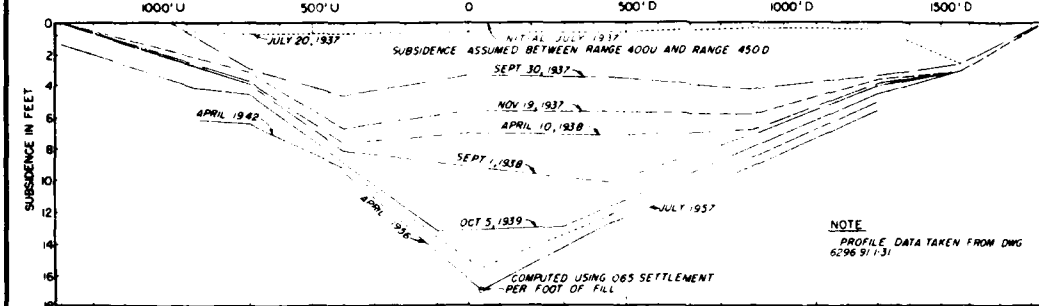
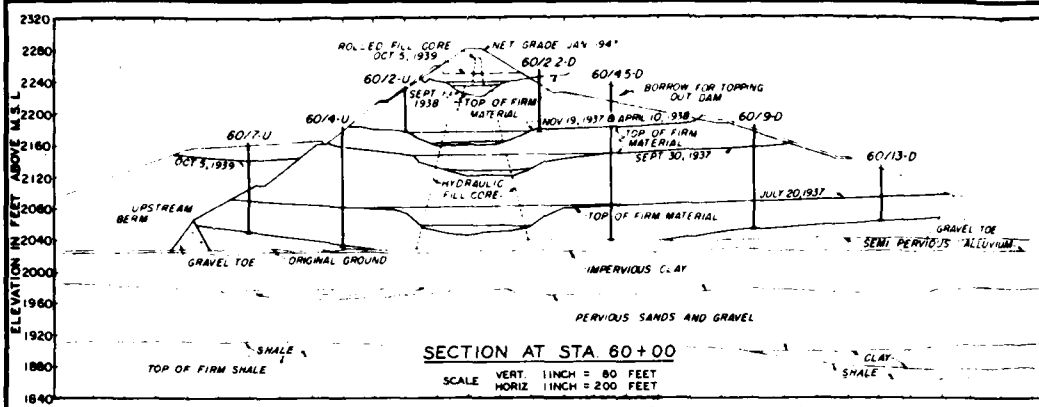
- — FILL HEIGHT IN FEET
- △ — SETTLEMENT IN FEET



THIS PLAN ACCOMPANIES CONTRACT NO. _____
MODIFICATION NO. _____

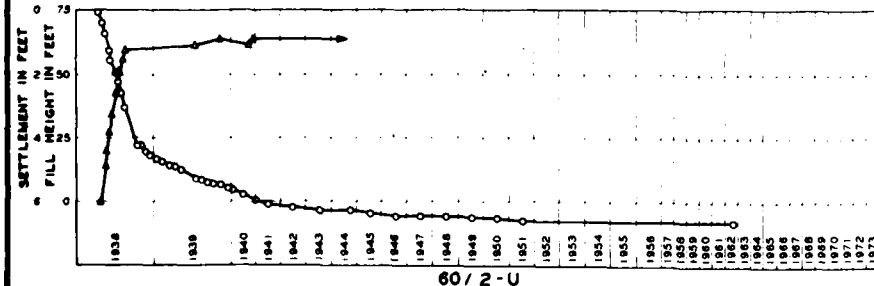
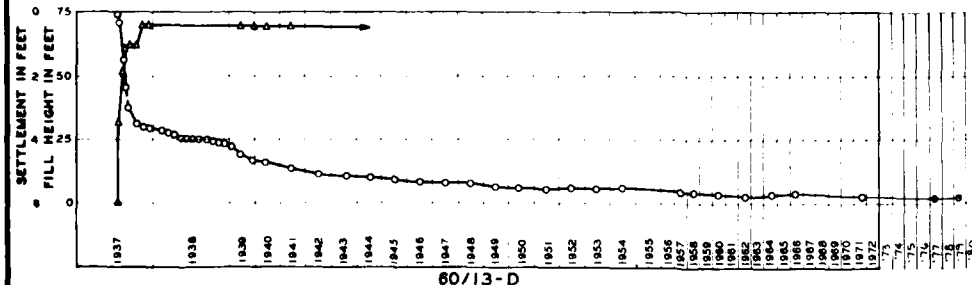
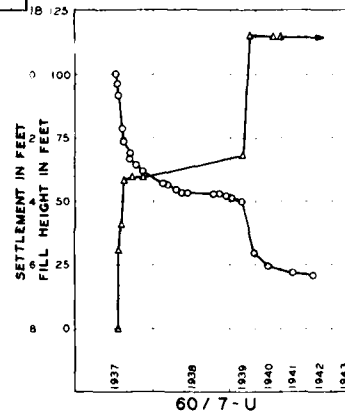
THIS DRAWING HAS BEEN REDUCED TO
THREE-EIGHTHS THE ORIGINAL SCALE

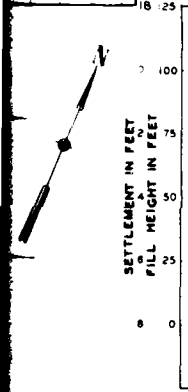
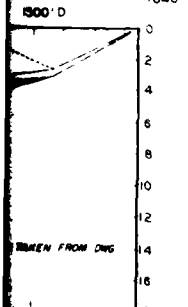
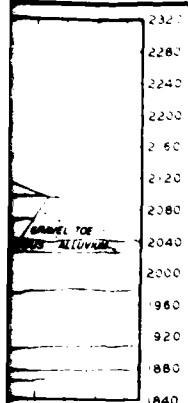
DATE _____		REVISIONS _____		MADE _____	APPROD _____
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA					
DESIGNED BY: R. J. M.		MISSOURI RIVER			
DRAWN BY: L. M. C.		FORT PECK LAKE, MONTANA			
CHECKED BY: O. W. A.		SUMMARY OF FOUNDATION SETTLEMENT			
SUBMITTED BY:		STATION 50+00			
CHIEF ENGINEER'S OFFICE		APPROVED: _____		DATE: _____	
CHIEF ENGINEER'S OFFICE		CHIEF ENGINEER'S OFFICE		DATE: _____	
APPROVED: _____		CHIEF ENGINEER'S OFFICE		DATE: _____	
CHIEF ENGINEER'S OFFICE		CHIEF ENGINEER'S OFFICE		DATE: _____	
CHIEF ENGINEER'S OFFICE		CHIEF ENGINEER'S OFFICE		DATE: _____	



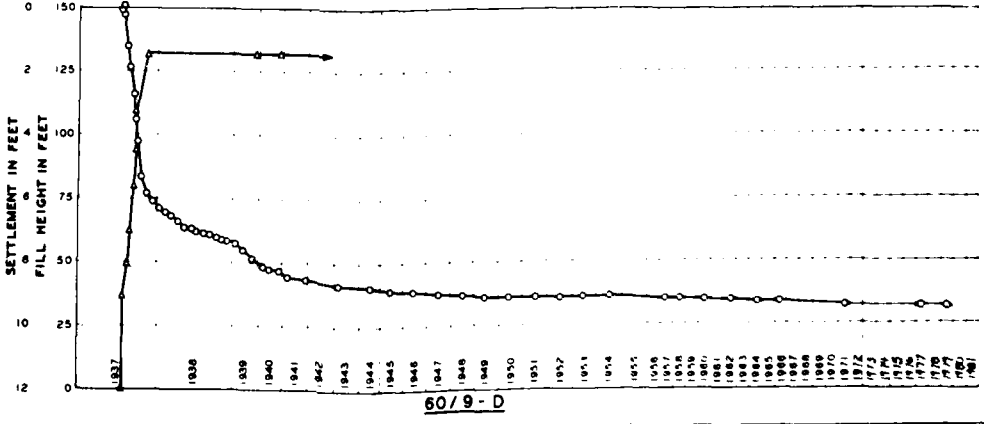
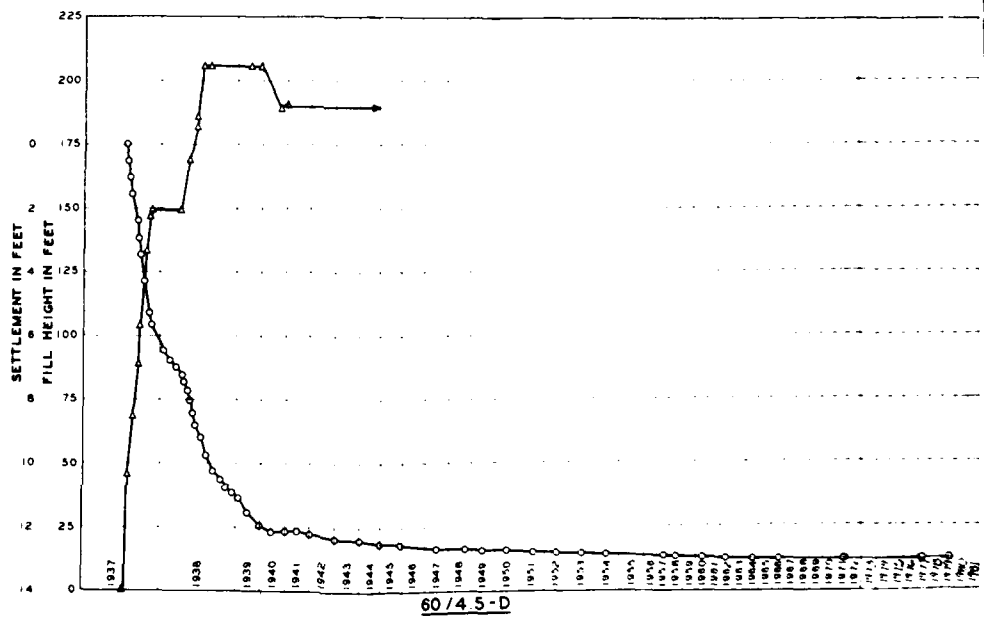
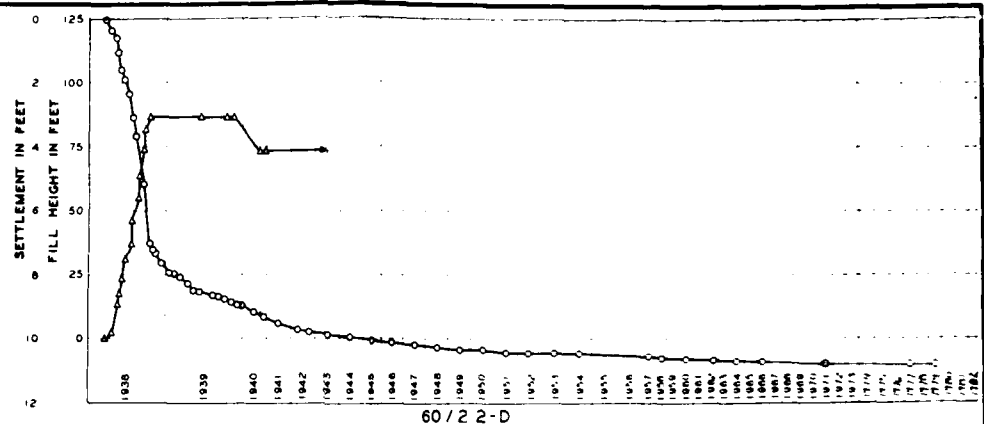
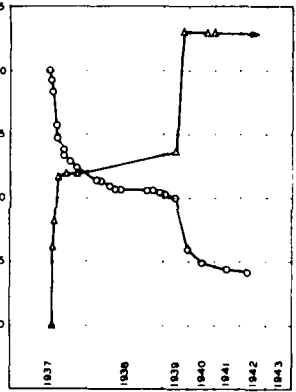
LEGEND

- FILL HEIGHT IN FEET
- SETTLEMENT IN FEET





LEGEND
 —○— FILL HEIGHT IN FEET
 —○— SETTLEMENT IN FEET

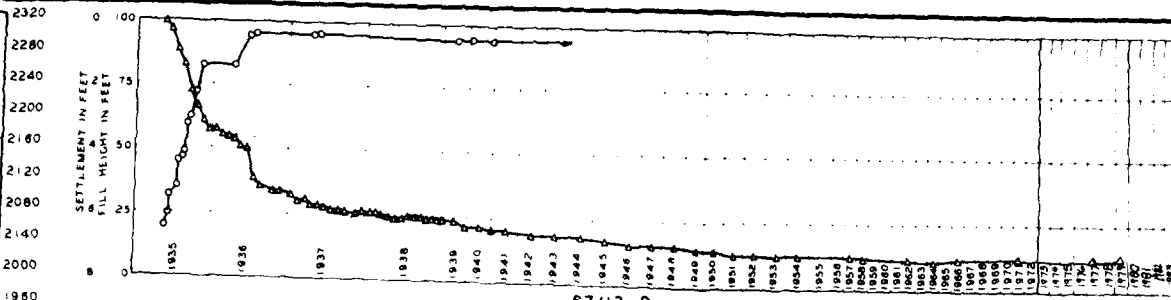


2
 THIS DRAWING HAS BEEN REDUCED TO
 THREE- EIGHTHS THE ORIGINAL SCALE.

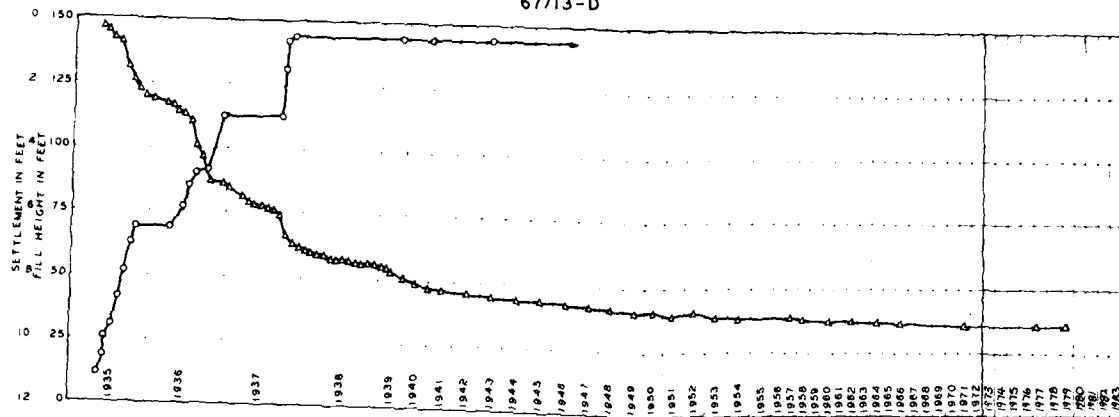


THIS PLAN ACCOMPANIES CONTRACT NO.
 MODIFICATION NO.

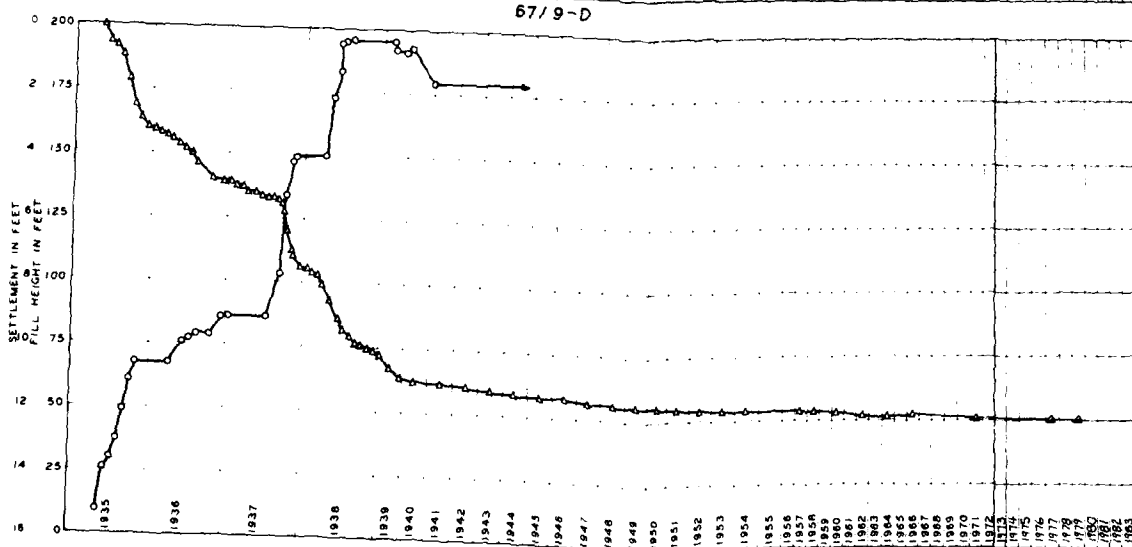
U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA	
MISSOURI RIVER FORT PECK LAKE, MONTANA	
SUMMARY OF FOUNDATION SETTLEMENT STATION 80+00	
DESIGNED BY: H. M. A.	APPROVED: [Signature]
DRAWN BY: [Signature]	CHIEF ENGINEER: [Signature]
CHECKED BY: [Signature]	CHIEF AS BUILT: [Signature]
APPROVED: [Signature]	CHIEF RECORDS: [Signature]
CHIEF FOR A.M.T. SECTION	CHIEF



67/13-D



67/9-D



67/5-D

LEGEND:

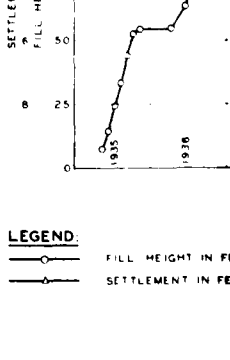
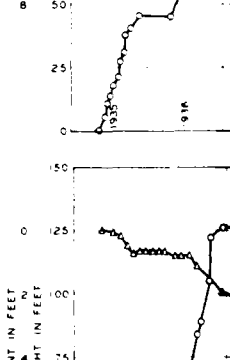
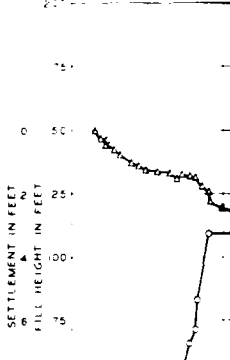
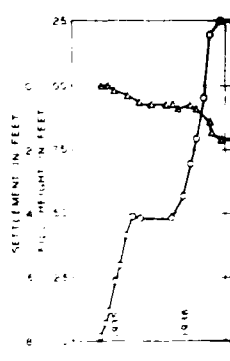
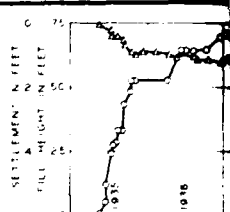
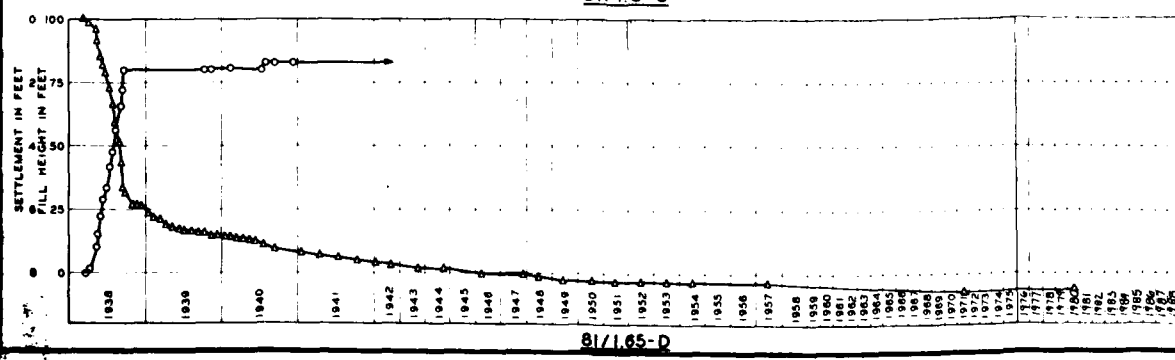
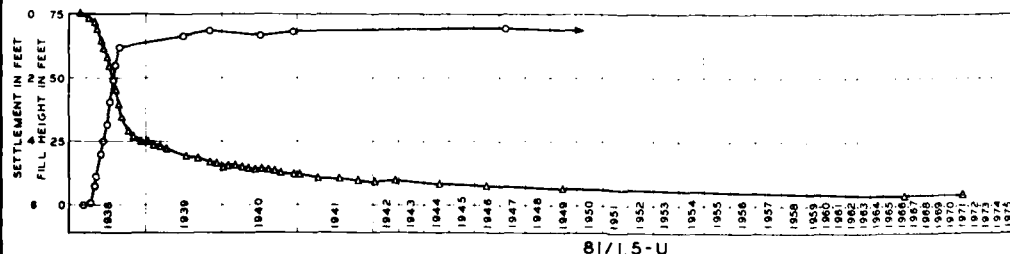
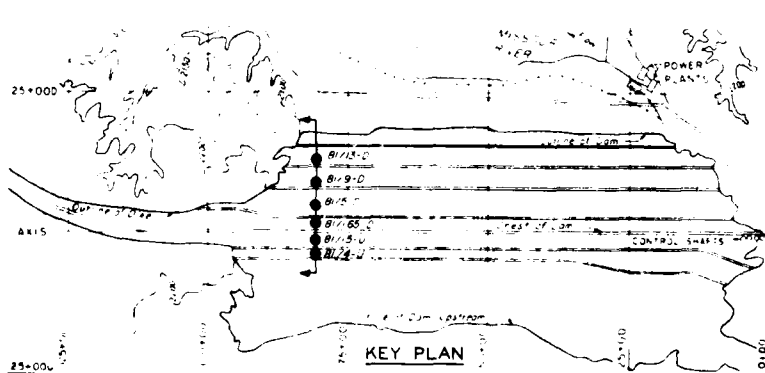
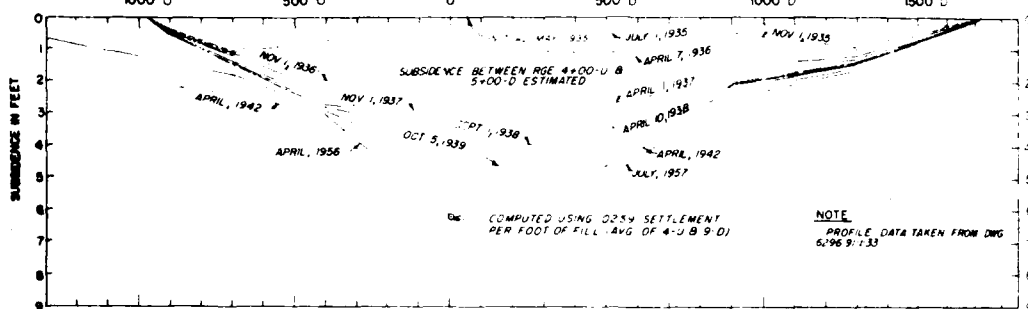
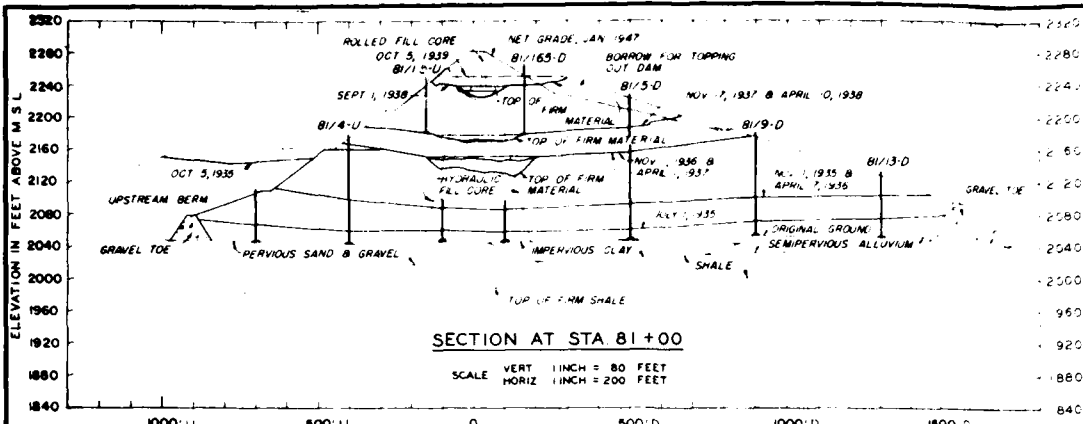
- FILL HEIGHT IN FEET
- SETTLEMENT IN FEET

THIS DRAWING HAS BEEN REDUCED TO
THREE-FOURTHS THE ORIGINAL SCALE.

DATE		REVISION		MADE	APPROVED
<p align="center">U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA</p>					
DESIGNED BY: H. J. M.		MISSOURI RIVER			
DRAWN BY: L. M. D.		FORT PECK LAKE, MONTANA			
CHECKED BY: O. W. A.		SUMMARY OF FOUNDATION SETTLEMENT			
SUPERVISOR: J. M. S. S.		STATION 87+00			
APPROVED:	APPROVED:	DATE:			
CHIEF ENGINEER DISTRICT	CHIEF ENGINEER DISTRICT	DATE:			
CHIEF ENGINEER DISTRICT	CHIEF ENGINEER DISTRICT	DATE:			
CHIEF ENGINEER DISTRICT	CHIEF ENGINEER DISTRICT	DATE:			



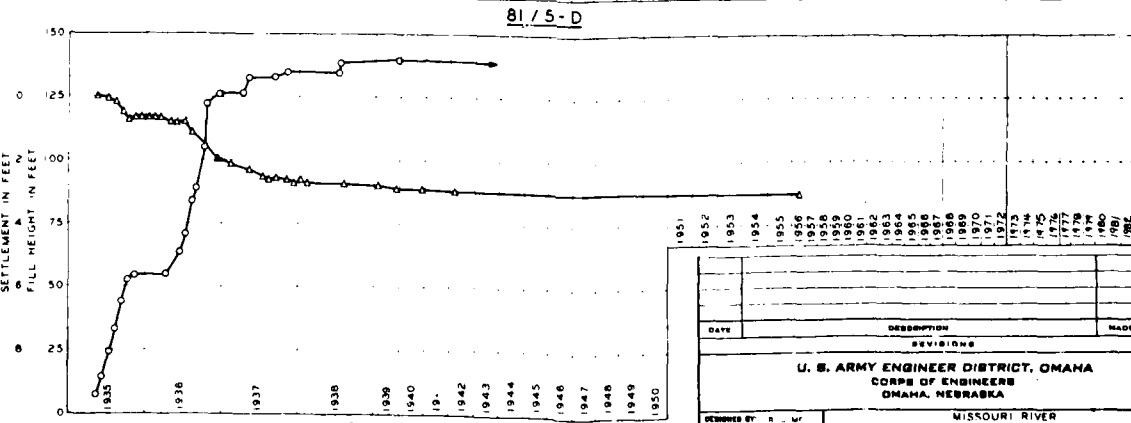
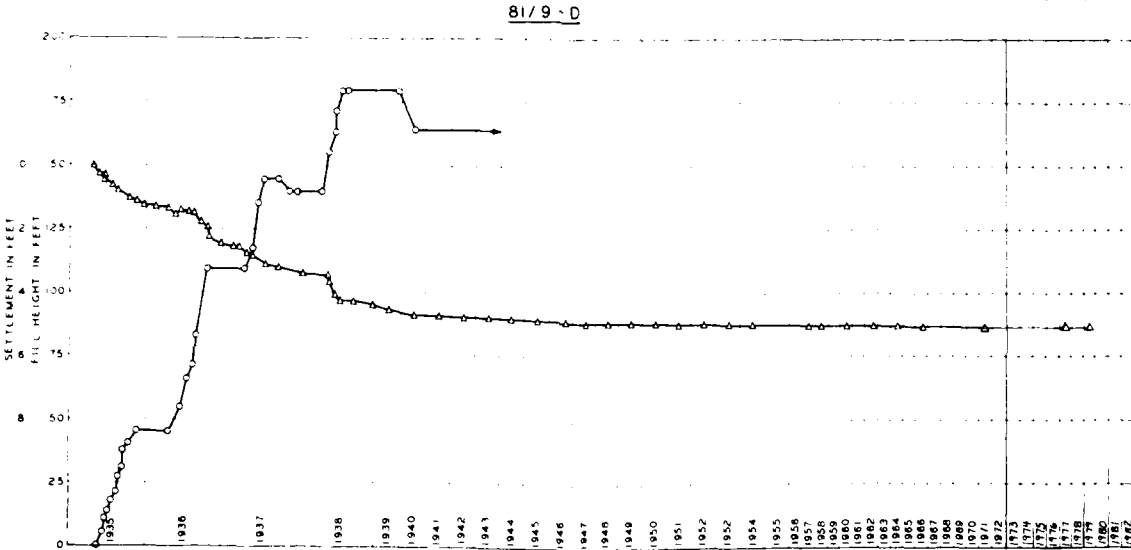
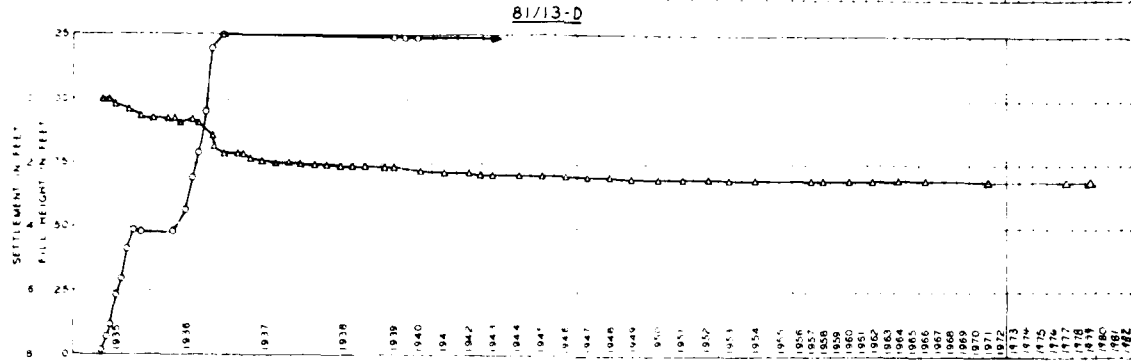
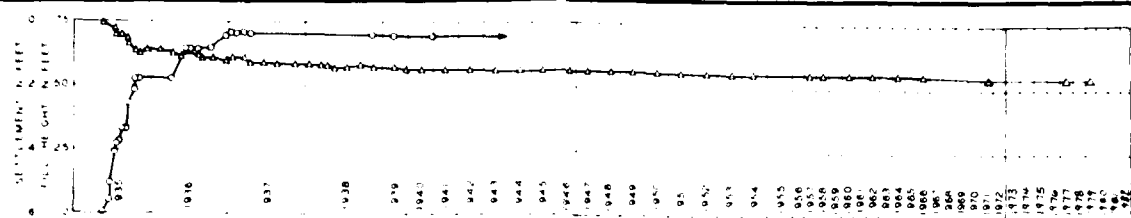
THIS PLAN ACCOMPANIES CONTRACT NO. _____
MODIFICATION NO. _____



LEGEND:

—○— FILL HEIGHT IN FEET

- - -○- - - SETTLEMENT IN FEET

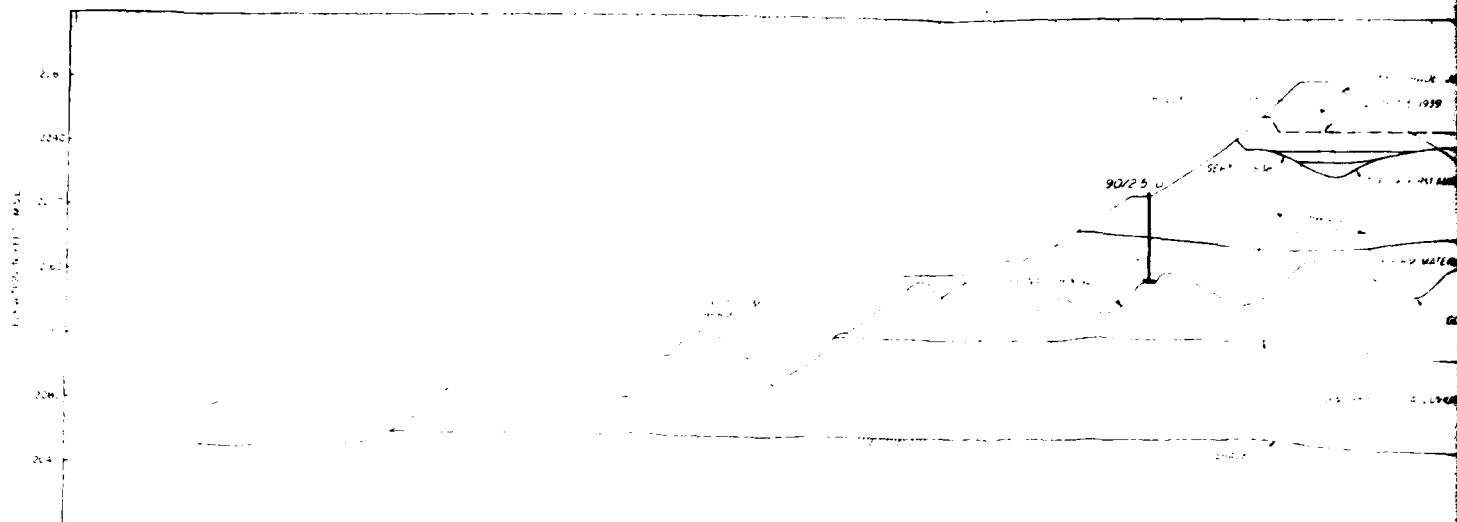


LEGEND
 ○ FILL HEIGHT IN FEET
 △ SETTLEMENT IN FEET



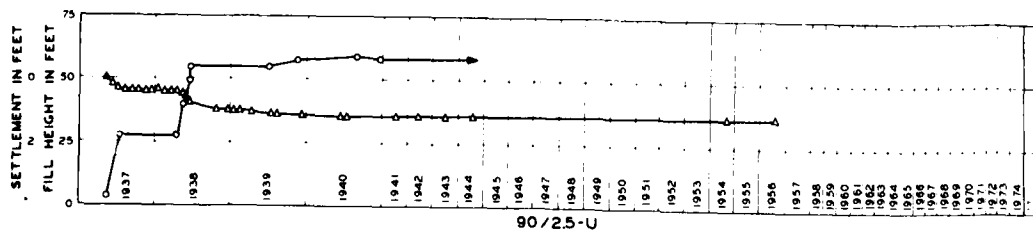
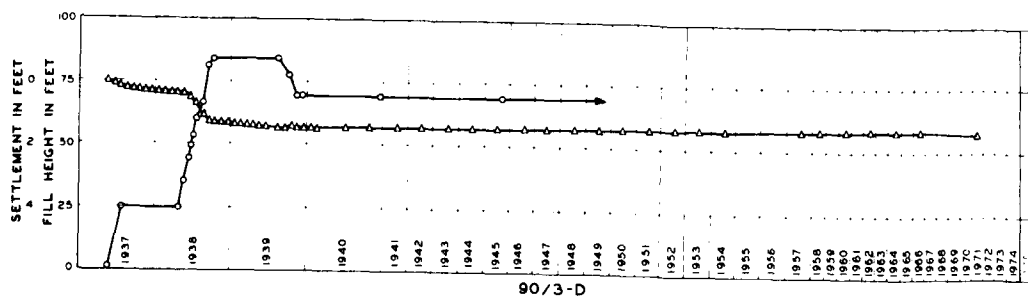
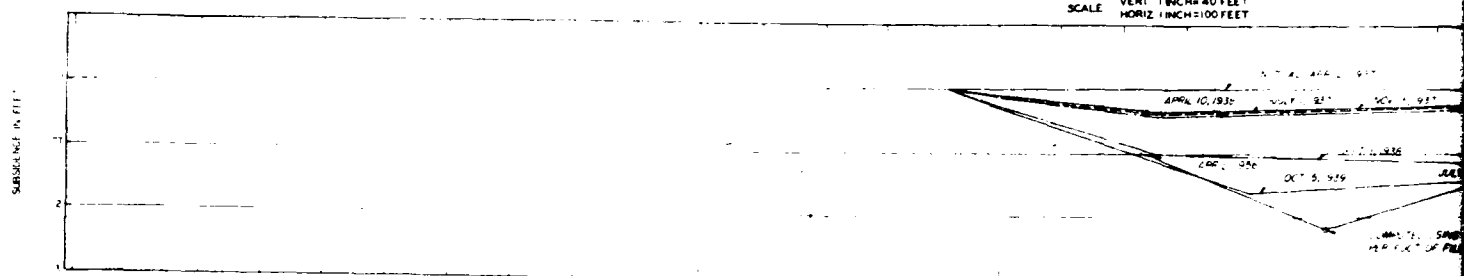
THIS PLAN ACCOMPANIES CONTRACT NO. MODIFICATION NO.

U. S. ARMY ENGINEER DISTRICT, OMAHA CORPS OF ENGINEERS OMAHA, NEBRASKA	
MISSOURI RIVER FORT PECK LAKE, MONTANA	
SUMMARY OF FOUNDATION SETTLEMENT STATION 81+00	
DESIGNED BY: R. M. L.	DATE: 1951
DRAWN BY: L. M. C.	DATE: 1953
CHECKED BY: C. M. A.	DATE: 1954
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1955
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1956
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1957
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1958
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1959
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1960
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1961
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1962
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1963
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1964
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1965
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1966
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1967
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1968
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1969
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1970
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1971
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1972
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1973
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1974
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1975
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1976
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1977
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1978
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1979
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1980
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1981
APPROVED BY: CHIEF ENGINEER'S OFFICE	DATE: 1982



SECTION AT STA 90+00

SCALE VERT 1 INCH=40 FEET
HORIZ 1 INCH=100 FEET



LEGEND

—○— SETTLEMENT IN FEET
- - -○- - - FILL HEIGHT IN FEET

LMED
-83